Univ. of
Toronto
Library

BINDING LIST JUN 15 1924.

# The Canadian Journal of Medicine and Surgery

A Journal published monthly in the interests of Medicine and Surgery

VOL. 53 TORONTO, JANUARY, 1923 No. 1


## Editorial

### The Journal—Our Record of Twenty-six Years

With this number begins Volume LIII of this magazine. Its publication causes one to be retrospective; and, in leafing through past numbers, the Editor becomes reminiscent, interested, grave and hopeful.

One notes in Volume I, (January to June, 1897) contributions (to mention only a few) from Geo. T. McKeough on "Operative Treatment of Mammary Carcinoma"; "Injections of Iodoform-glycerine in Tubercular Osteomyelitis," by B. E. McKenzie; "The Relation Between Leukæmia and Pseudo-leukæmia," by Martin and Mathewson, of Montreal; "The Treatment of Eclampsia," by A. J.


190515
9.8.24

R
11
C38
v.53

Harrington; "Congenital Sarcoma of the Skin," by F. N. G. Starr; "Essential Nature and Treatment of Pneumonia," by T. F. McMahon. Jas. MacCallum writes on "A Case of Hysterical Deafness." Among obituary notices are to be seen those of W. T. Aikins, James Baldwin, M. J. Hanavan and Frederick W. Strange.

J. J. Cassidy was chief editorial writer from 1897 until his last illness. His associates were F. W. Strange in Surgery; H. T. Machell in Gynæcology and Obstetrics; W. H. Pepler in Pathology; A. B. Eadie in Physiology; A. J. Harrington in Pharmacology and Therapeutics; Augusta Stowe Gullen in Pediatrics; W. A. Young in Medical Jurisprudence; J. D. Thorburn in Oto-Laryngology; J. M. MacCallum in Ophthalmology; and Ezra Stafford in Mental Diseases.

The first number contains a report of a meeting of the Toronto Medical Society, Dr. W. J. Wilson presiding. The paper of the evening (Dec. 10th, 1896) was read by Chas. G. Stockton of Buffalo, on "Some Aspects of Enteroptosis," fairly fully reported by John N. E. Brown, secretary of the Society.

During this year one reads of the meeting of the British Medical Association, held in Montreal under Roddick; of the introduction of the X-ray for diagnosis, the increased use of ether as an anæsthetic, and the introduction of asepsis and vaccines.

Peter Bryce was then Provincial Medical Health Officer; W. Coventry, of Windsor, was presiding over the Ontario Medical Association; B. E. McKenzie was stressing the importance of orthopedics.

Twenty-five years ago there were some 2,000 hospitals in America; to-day there are 7,000; will the increase during the next half century be in the same ratio? In Ontario there were some forty hospitals when our first number was published; what do they number now?

Medical journals, too, have increased in number and quality since 1897. In those days a good deal of initiative and courage were required to publish a medical journal. Subscribers were few and original material (locally) seemed difficult to procure. Much credit is due to our earlier editorial predecessors for awakening the interest they did in professional matters. It is fitting to have those very interesting reports of clinical cases recorded. Our men with their limited equipment did very praiseworthy work. Especial credit is due those in country places who, summoned to severe surgical accidents, placenta prævia cases, and sudden medical casualties, responded with so much alacrity and good will, administering treatment with such conspicuous success.

Our profession answered calls from long distances by messengers on horseback, made visits over muddy roads, through slashings and swamps, in the darkest nights, through winter's cold and snow

drifts and in summer's heat. These men were always ready, and their successors have something to live up to.

We feel proud to keep in touch with men of this ilk, to record their work, to voice their protests and encomiums.

The medical press has done much in the last fifty years to bring the profession together in the advocacy of the formation of societies, associations, medical clubs, by reporting their proceedings, airing their grievances, and recording their successes. This has been and will continue to be the policy of THE CANADIAN JOURNAL OF MEDICINE AND SURGERY.

In closing this review we must record our appreciation of the loyalty of our subscribers and advertising patrons, without whom it would have been difficult to carry on. In spite of strikes and other handicaps we have tried to give service. Our printers have taken pride in their work; the mechanical appearance has been made as attractive as possible; we have published promptly and endeavored in every way to keep up the prestige of Canadian Medicine.

When one notes the few high spots in the medical history of our country during the past quarter of a century, he wonders what twenty-five years from now will reveal. Meantime he must remember that "work is as it is done," and learn to "labor and to wait."

## Toronto Revisited

When any of our men, who have gone to the United States or the Motherland, make good and return to the precincts of their *alma mater*, they are received with open arms. They are dined (possibly wined) and given the opportunity to shew us how golf should be played. Rarely do they escape the clutches of the chairman on program of the Toronto Academy of Medicine

Reginald Morton, a student of some three or four decades ago, was a recent victim of our hospitality and importunity. At a meeting in Toronto he gave the Toronto Fellows of the Academy the latest news in the field of X-ray therapeutics, a digest of his paper appearing in this issue. We regret our space precludes the full paper.

Dr. Morton is a graduate of Trinity school. Dr. Wilbur Harris, president of the Academy, an old Trinity man, was in the chair. A goodly number of old Trinity men were present. None was more interested than their old professor, Dr. F. L. M. Grassett, hale and hearty and in good spirits, who made one of his happy little speeches in a vote of thanks accorded to the distinguished alumnus.

Dr. Morton in his clever address made allusion to this popular and now venerable professor in the following words:—

"A little more than thirty years ago, and considerably less than thirty miles from where I now stand, a certain professor of surgery, lecturing on

this subject, made a statement in my hearing to the effect that as a means of dealing with cancer and kindred conditions, surgery amounted to a confession of weakness; 'We cut away such things because of our inability to cure them.' Methods and results have improved in the interval, but such words are as true now as they were then."

We are pleased at the eminence Dr. Morton has attained in his chosen field and that, in spite of his dangerous calling, his hard work and buoyant spirit have enabled him to retain his youthful vigor.

---

## Medical Education

One of our fraternity writes in the *Century* for September last an article on "Our Medicine Men." Disorder, he says, reigns through the new importance of the science of medicine. Some professors maintain that students should be versed in Latin and Greek, political and social science; and, since they must maintain social prestige, they ought also to be able to discuss the Elizabethan drama and the Neanderthal man.

Others assert that the above programme is bosh and, instead, that the medical student should devote his preliminary studies to scientific subjects. The two types of training are impossible in the time allotted.

The *Century* contributor points out that the system of requiring (1) two years of pre-medical (mainly scientific) study, or (2) of three or four

years preparation optional to this, leads to great dissatisfaction. The more adequately-trained man finds himself in the demoralizing position of associating with inferiorly trained men who suffer no ostensible disadvantage in their actual medical studies. Worse, he finds himself in the rear of students (two-year men in some minor college) who, as third year men in medicine consider themselves to be vastly his superiors.

One student, with four years in mathematics, physics and chemistry, commences medicine and to his chagrin discovers he knows far more of these subjects than many of his medical instructors, and that he is surrounded by glib-memoried, poorly-prepared ignoramuses, who have a facility for reeling off multitudes of unrelated text-book facts! Such a student rebels at this intensive intellectual stuffing, loses interest, and becomes an offence to his anatomical instructors, who communicate their opinion of him to the other instructors, and the stigma clings to him through the whole course. On the other hand, he may spend all morning in class, snatch a hasty lunch, spend entire afternoons in the laboratory, and consume untold energy in a diligent but befuddled effort to memorize enough to make a presentable showing on the next day in class. Rarely has he a moment for thoughtful consideration of disease. Finally, he gathers himself together for a final orgy of fact retention to be regurgitated at the examination. This continues for the better part of three years. As hospi-

tal work looms up he feels he will be rid of the strain of partial mastication and partial digestion of what he has crammed into his mental stomach. He tries to forget the nightmare. Soon immersed in bedside work he forgets the staggering array of facts which bedevilled him in his laboratory courses.

Now the salaried laboratory professors become indignant at seeing their efforts flouted by these hospital fledglings who look up to their wealthy clinical professors as their ideals. There is invariably a feeling of opposition between these two classes of professors. The conflicts are due to a confusion of ideals. Medical educators must realize that there is no such thing as a science of medicine and that the study of disease is a matter distinctly apart from the art of healing. At present the first two years assume that all students are to become investigators of the problems of disease.

Hospital work is entirely antithetical to the spirit of science, continues the writer. Inquiring spirits who wish to stop and study an interesting case of exophthalmic goitre are hurried to an obstetrical séance, to them, maybe inane. The final year is devoted to a bewildering profusion of subjects comprised mainly of various lucrative specialities. So the fourth-year man who should occupy all his time with the arts of clinical and laboratory diagnosis and with the craft of surgery, is enticed into premature ambitions to specialization.

In this strain the author continues. Constructively he recommends an early sharp division of those wishing to be practitioners from those aiming at the

scientific study of disease. This would release the practically-minded youths from mystified gropings in a fog of fact and doctrine that must remain always incomprehensible to them. By rigid entrance examination of the two types the best men could be secured and a goodly number of incompetent and undesirable students shut out.

"So long as the aim of education is the standardized production of intellectual Fords it is a palpable fatuity to recommend methods which might result in an occasional Locomobile."

---

## Vitamines

Prof. Andrew Hunter, of the University of Toronto addressed the pathological section of the Academy of Medicine on Vitamines, on the opening night.

Summarizing his excellent address he said it was a big step from the laboratory to the bedside. In the laboratory it was possible to prepare diets which were defective in one respect alone, and to observe the specific defect of that deficiency we have artificially created. It is rare that these deficiencies occur in the human subject. It was hardly to be expected that we should find conditions so clear-cut and unquestionable as those we can produce at will in animals. Deficiency diseases corresponding to those conditions in animals are not so clearly deficiency diseases as we could wish. Experimental animals are shielded from the ill-effects of other agencies, except diet; they are preserved

from infections, change of temperature and the like. Human beings suffering defective diets are exposed to agencies which may cause disease. On account of defective diet they are more liable to bacterial disease. The symptoms in any particular disease are rarely those of a deficiency disease in the strict sense, or entirely due to a specific defect in diet.

In respect to our present knowledge of vitamines there is no room for the word "hypothesis," which certain so-called authorities are sometimes using. There is room for doubt as to whether any particular human disease is or is not a specific deficiency disease. There we are often dealing with hypothesis and hypothesis alone. In such conditions the laboratory worker must listen to the opinion of the clinician with the utmost respect.

The most thoroughly studied diseases due to lack of vitamines are scurvy, beri beri, endemic multiple neuritis, pellagra and rickets. There is also xerophthalmia, a degeneration of the eye, which is also supposed to be the result of vitamin deficiency. Scurvy is the one about which there is the least doubt in regard to etiology. It is brought about slowly by specific defect in diet. Hypotheses formerly held in respect to its causation exist no longer. Scurvy is due to the absence in the diet of vitamin C. It is important to know how much of it is anti-scorbutic. The Lister Institute has done a large amount of experimental work, particularly in estimating approximately the relative quantity; but it is impossible to isolate it. We know it is pre-

sent in certain food stuffs, but in what amounts we cannot say. The quantity, however, can be estimated indirectly by experiments on animals. The richest food materials in this vitamin are certain fresh meats and vegetables. Oranges, turnips and tomatoes are especially rich in it. Less rich are potatoes and other tubers, fresh meat and milk. A large number of foods contain none of vitamin C at all—bread, for instance, and cereals in general. The best way to secure plenty of anti-scorbutic vitamin is to consume a reasonable amount of fresh fruits and vegetables. This is done by the ordinary individual in North America under present conditions. In this way scurvy is prevented. We eat meat and potatoes, which are not specially rich in anti-scorbutic vitamin; but with a reasonable quantity of fruit and milk we get more. It is only under exceptional circumstances that we see scurvy nowadays—on board ships on long voyages, and in armies.

In the Mesopotamian campaign, in 1916, 11,445 soldiers developed scurvy—mostly among the Indian troops, whose daily diet was 4 ounces of meat, 2 ounces of potatoes, 1½ ounces of alta and 1½ ounces of dhal. Few cases developed among the British troops, who had 1 pound of meat, 1 pound of potatoes and 1 pound of bread. Alta is a preparation of wheat which includes the germ. Dhal is a preparation of lentils. Neither contains the anti-scorbutic vitamin. They do contain an ample supply of vitamin B, and this protected them from beri beri, which the British did suffer from, owing

to its lack in their diet. The medical authorities soon recognized what they were up against, and by altering the diets, both scurvy and beri beri disappeared almost completely. Fresh lemon juice of the best quality was administered to the Indians; and after the capture of Basra, fresh fruit and vegetables were provided, which resulted as above stated. It is rather an ironical circumstance that the outbreak of scurvy might have been prevented had the lentils been allowed to germinate, for then there would have been a good supply of vitamin C. But this fact was brought to light by later investigations.

In children, however, scurvy is exceedingly common. Milk is not particularly rich in anti-scorbutic vitamin. It doesn't contain a great deal; this vitamin is very easily destroyed. It is very susceptible to the influence of heat and alkalis; most of all to oxygen. Fresh milk contains only about one one-hundredth as much anti-scorbutic vitamin as does the same amount of orange juice. And the amount in milk is not always the same. It is comparatively high in summer when the cows are on rich grass, from which the cow procures the vitamin; much less in winter when they are on dry feed. When food containing this vitamin is cooked long or overheated, particularly in presence of air (oxygen), the vitamin is destroyed. In one of the Scottish military camps in 1917, there was an outbreak of scurvy. The ration included two ounces of swedes (rich in vitamines) and a very large quantity of meat. On inquiry it was found that the cooks

boiled these two sorts of food from four to six hours, thus completely destroying the vitamin content.

At one time it was thought that, as a consequence of cooking, canned goods, preserves, condensed milk, milk powders and other artificially prepared foods would have their anti-scorbutic properties destroyed. Pasteurization of milk was also condemned for the same reason. In a general sense this is true. It is not so much the heat that injures this vitamin. The thing that hurts it is heat in the presence of oxygen or air. The more intimately the food products while being heated are brought into contact with air, the greater the destruction. If the air is excluded the vitamin may survive practically unchanged. Further, if the process is carried on under an acid reaction, the destruction is still less. With an alkaline reaction the vitamin is injured. So canned tomatoes, for instance, being acid, may be a very powerful anti-scorbutic. It is, therefore, recommended by Hess and others, to give canned tomatoes to scorbutic children, as well as to prescribe orange juice.

Pasteurizing milk does not necessarily injure the anti-scorbutic vitamin. Where it passes along a long series of pipes and comes in contact with the air, the anti-scorbutic vitamin becomes oxidized. But where the milk bottle is simply placed in a pan of warm water, the vitamin may not be affected at all. The same is true in the preparation of condensed milk.

As to milk powders there are, in general, two ways of preparing them. In one—the spray pro-

cess—the milk is permitted to fall down through a heated chamber in a fine spray or droplets, coming into intimate contact with the air. It falls on the bottom of the chamber as a powder. Such powder has little of vitamin C. In the second, the milk passes in a thin, spread-out sheet over hot rollers, the contact with the air being much less and only for a short period of time. Such milk may be excellent in anti-scorbutic vitamin content. Here, again, everything depends upon the quality of the milk itself as to its vitaminic content. Hess reports a case of infantile scurvy cured by giving the patient two ounces of dry milk powder daily.

Dr. Hunter then gave a description of pellagra. This disease is due, not to a deficiency in vitamines, but rather of cystin and trytophane—two of the amino acids.

---

## Folie a Deux

Marandon de Montyel divides this psychosis into three classes:—

1. The *folie imposée* is one in which one individual affected with a psychosis transmits to another with whom he is living intimately and in secluded association a similar psychosis, from which, when the two subjects are separated, the latter recovers.

2. *Folie simultanée*, a psychosis in which two subjects are simultaneously affected by the one and

the same psychosis arising from the same external factors, in which transmission plays no part.

3. *Folie communiquée*, representing a psychosis in which the mental symptoms of the primary subject become firmly rooted in the second subject, but in both of which new elements arise and a true independent psychosis occurs and which persists and progresses even after separation from the active factor.

---

### Toronto University Alumni Association

Early in November last, following a meeting of one branch of the Ontario Medical Association, a meeting of the Medical Alumni of Toronto University was held in the Academy of Medicine, Dr. H. B. Anderson, '92, Trinity, in the chair, Dr. Wm. H. Smith, Secretary.

There was a good attendance, a fine spirit and some good work done. The constitution was revised and several resolutions passed, the last one on the agenda calling for agreements made in connection with gifts made to the University and Toronto General Hospital.

The president of the alumni delivered an informative and stimulating address. He pointed out how Convocation, one of the three bodies having to do with the welfare of the University had not functioned. Its place, however, had been taken by the Alumni Federation. This was approved by Dr.

Anderson and by the meeting. There are over 5,000 alumni, and these ought to have a say in University affairs. They ought to be a fine advisory body.

The Board of Governors administer the business side of the University and confirm appointments. The Senate has to do with the academic side of the work. It has become unwieldy, according to one view presented.

The alumni body are worthy of cultivating and nourishing, and should be of great service to the other two—the administrative branches.

The annual fee is $3.00 which includes a subscription to the small magazine published by the alumni. A life membership costs $50.

Among those taking an active part in the meeting were:—Drs. H. A. Bruce, John Fotheringham, K. McIlraith, Geo. W. Ross, John McCollom, Velyen Henderson, J. McLurg, John N. E. Brown, A. S. Tilley of Bowmanville, and Thomas Middleboro of Owen Sound. There was a fine attendance.

# The Canadian Journal of Medicine and Surgery

Toronto ——— Canada



## Board of Editors

**THE PRINCIPLES OF SURGERY AND SURGICAL PATHOLOGY:**

**Irving H. Cameron, M.B., LL.D., F.R.C.S., England; F.R.C.S., Edinburgh; F.R.C.S., Ireland; F.A.C.S.;** Emeritus Professor of Surgery, University of Toronto.

**PRACTICE OF SURGERY:**

**N. A. Powell, M.D., C.M.,** Emeritus Professor of Medical Jurisprudence, University of Toronto. **Herbert A. Bruce, M.D., F.R.C.S., Eng.,** Associate Professor of Clinical Surgery, University of Toronto,

**HOSPITAL ADMINISTRATION:**

**J. N. E. Brown, M.D.,** Toronto, former Superintendent Toronto General and the Henry Ford Hospital, Detroit, **A. R. Haywood, M.B., M.R.C.S., L.R.C.P., Eng.,** Medical Superintendent, Montreal General Hospital.

**OPHTHALMOLOGY:**

**J. M. MacCallum, M.D.,** Chief, Department of Ophthalmology, Toronto General Hospital; **Walter W. Wright, M.B.,** Assistant in Ophthalmology, Toronto General Hospital.

**NOSE, THROAT AND EAR:**

**Perry G. Goldsmith, C.B.E., M.D.,** Chief, Department Ear, Nose and Throat, Toronto General Hospital; **J. K. Milne Dickie, M.D., F.R.C.S., Edin., Ottawa.**

**PEDIATRICS:**

**Augusta Stowe Gullen, M.D.,** Toronto; **Alan Canfield, M.D.,** Visiting Physician, Hospital for Sick Children, Toronto; **George Smith. B.A., M.B.,** Associate Physician, Hospital for Sick Children, Toronto. **Helen MacMurchy, M.D.,** Chief, Division of Child Welfare, Department of Health, Ottawa.

**MEDICINE:**

**J. T. Fotheringham, C.M.G., M.D., LL.D.,** Associate Professor of Clinical Medicine, University of Toronto; **Jahez H. Elliott, M.D., F.A.C.P.,** Past President, Academy of Medicine; **Dr. Julian Loudon, B.A., M.B., M.R.C.S., Eng., L.R.C.P., London, F.A.C.P.,** Physician-in-Chief St. Michael's Hospital, Toronto; **Lewellys F. Barker, M.D.,** Baltimore, Emeritus Professor of Medicine, Johns Hopkins University.

**CLINICAL MEDICINE:**

**H. B. Anderson, M.D.,** Toronto; **George S. Strathy, M.D., L.R.C.P., M.R.C.S., Eng.,** Clinician, Department of Medicine, University of Toronto; **W. B. Thistle, M.D., L.R.C.P., London,** Associate Professor Clinical Medicine, University of Toronto. **R. T. Noble, M.D.,** Past President, Academy of Medicine, Toronto; **G. W. Ross, M.A., M.B., M.R.C.P., London, Eng.**

**MENTAL AND NERVOUS DISEASES:**

**N. H. Beemer, M.D.,** Medical Superintendent, Ontario Hospital, Mimico; **Campbell Meyers, M.D., M.R.C.S., L.R.C.P., Eng.**

**GYNECOLOGY**

**F. W. Marlow, M.D., F.R.C.S., England;** Associate Professor of Gynecology, University of Toronto.

**OBSTETRICS:**

**J. Gordon Gallie, B.A., M.D.,** Assistant Department of Obstetrics and Gynecology, Toronto General Hospital.

**DERMATOLOGY:**

**D. King Smith, M.B.,** Clinician, Department of Dermatology, University of Toronto.

**ROENTGENOLOGY:**

**W. M. Carrick, M.D.,** The Mayo Clinic, Rochester, Minn.

**MANAGING EDITOR:**

**W. A. Young, M.D., L.R.C.P., Eng.,** Toronto.



**Address all communications to "The Canadian Journal of Medicine and Surgery," 145 College Street, Toronto, Canada.**

**Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., must be in our hands by the first of the month previous to publication.**

# Original Contribution

## RECENT ADVANCES IN X-RAY THERAPEUTICS

By Reginald Morton, M.D., C.M., (Trin., Tor.), F.R.C.S. Ed. etc.

Read at the stated meeting of the Toronto Academy of Medicine, October 3rd, 1922.

(Dr. Morton has been working at this entrancing study since its introduction. Owing to the disasters which have overtaken some of his fellow-workers, no scheme of protection can be too elaborate for X-ray workers.)

Accurate dosage is the sunken reef upon which many fond hopes and pet schemes have been smashed. The knowledge of the effect of the rays upon the tissues has not kept pace with the development of physical equipment. So treatment by them lagged behind diagnosis by them. Conditions necessary for the best results in X-ray diagnosis are almost directly opposed to those that make for success in X-ray treatment. The high-resistance X-ray tubes give the worst results in diagnosis; the best in therapeutics. X-rays are polychromatic. In the "soft" tube for radiography the more easily absorbed and longer rays predominate, as is also the case in the too "hard" tubes used for reliable diagnosis. More than minute doses from these, even to a moderate depth, will burn the skin. Hence the value of the filter—a very important adjunct. The coolidge tube also helped to overcome many difficulties; one could give larger doses, which were gratifyingly increased for a time—then the deluge. Some apparently favorable cases didn't respond; others got worse and the patients died. Doses were being given that stimulated the cancer cells. There must be a destructive dose.

During the war Seitz and Wintz, of Erlangen, solved the problem of dosage through team work. They explored the field of gamma radiations. As a result of their work their colleagues in gynecology and surgery have completely abandoned dealing with malignant disease. An accurate and reliable dosage and the tolerance of the various tissues, normal and pathological, are the desired data. It is now easy to give any required dose to any part. If the *unit skin dose* to any part of the surface of the body is found, we know what percentage arrives at any depth below. So by attacking a central lesion from several surface points a sufficient dose may be given. In fact, it is easier to irradiate a central lesion than one on the surface, as in the latter case we have but one port of entry.

A standard type of X-ray tube is used, always under the same electrical conditions, and its important parts at the same temperature. The tube requires a process of "seasoning" before it becomes stable for two hours continuous work. It must not become overheated. The activity of the tube must be ascertained. This is done by means of the electroscope.

We know the percentage of the unit skin dose at a depth of ten cm. (say); the tube is moved back ten cm. and interposed between it and the ionising chamber is a box ten cm. across filled with water or wax. From the readings obtained in both cases the percentage is easily calculated. Knowing the percentage of the depth dose we get the percentage at any other depth by referring to tables worked out at Erlangen.

The unit of skin dose is that amount of rays from a standard tube working under standard electrical conditions at a standard distance from the skin, with a zinc filter half mm. thick interposed which gives rise to a slight redness of the skin in about a week and pigmentation or tanning in about a month.

Such a dose may be again administered in six weeks. With a stablized and calibrated tube, measurements corrected by reaction following the first few doses given by skilled hands, dosage is regulated by time alone. Tubes require re-calibration at intervals. Extreme care at all times in every detail is necessary.

Putting the unit skin dose at 100, 108% of the unit skin dose may be given muscle; intestine and other normal tissues, 135% (excepting the lining of bladder and rectum); 35%

destroys the function of the ovary; 28% produces sterility for from three to five months. This procedure is surprisingly successful for bleeding at the menopause, even in the presence of fibroids. Non-septic tuberculosis lesions in young bones and joints react very favorably to 50% dose.

Normal tissues have a higher resistance than pathological to the gama ray (X-ray or radium).

The most vulnerable period in the life history of a cell is when dividing. Sarcomatous cells are less resistant than carcinomatous, possibly because mesoblastic cells have less vitality than epitlastic. 80% of the unit skin dose is lethal to sarcoma; 110% to carcinoma, while sarcoma is more easily destroyed than carcinoma, the ease with which the cells disseminate more than overcomes the difference. Thanks to the lymphatic system the former tends to localization for a longer period. Soft, encephaloid carcinoma disappear very rapidly; the scirrhus sulkily. Roden ulcer may heal after one massive dose, but the cells below the surface may be only temporarily paralyzed; after a dormant period they may renew their malignant energy.

A few years ago in cancer, small fractional doses were more or less frequently given. If the cumulative effect at no time exceeded a certain amount, favorable results were obtained. With the introduction of the larger doses from the Coolidge tube cases (inexplicably) didn't do so well. The Erlangen workers found that fractional doses inhibited the growth of the cell if the cumulative dose at any time didn't exceed a certain amount; but if the limit was exceeded a stimulating effect was produced; cancers of slow growth after such a dose (40% of the V.S.D..) rapidly increasing in size. Hence the necessity of accurate knowledge and the extent and distribution of the lesion and the utmost care in technique lest outlying parts of the growth receive this stimulating dose. When 60% of the V.S.D. is reached the paralytic stage is reached. Up to 90%, the malignant cells are injured, but not beyond recovery. The lethal dose probably begins at 100%. 110% to 120% is not too much.

Full irradiating doses produce unclear disintegration, cell vacuolation and an active local leucocytosis, many of the destroyed cells being carried away by the lymphatics. Even in

the hard nodule left—a fibrosis having taken place—there may be remaining cancer cells.

The general health of the patient is an important factor in the result. Results are better in those not already interfered with surgically. If there is suspicion of anæmia a blood count should be taken. If the reds are more than 10% below normal, iron and arsenic should be administered along with generous feeding for a couple of weeks. This will enable the patient's vital processes to complete the work begun by the ray. The irradiation causes a diminution in the red cells averaging around ten per cent.; twenty per cent. under extreme conditions. It is useless and unjustifiable to treat a markedly anæmic patient. The effect of the treatment is the more favorable the nearer the red count approaches normal; better still if it exceeds it.

In the average case, suppose the uterus is ten cm. from the surface. The tube is placed so that the anticathode is twenty-three cm. from the skin; the area exposed six by eight cm. The tube is centred over the symphysis, the face of the applicator firmly on the skin, adjusted so that the axis of the X-ray beam passes through the middle of the lesion. The dose takes thirty minutes, and requires to be given through each port of entry. The amount reaching the cancer must be remembered, which is already known from the calibration measurements above referred to. It is usually just under twenty per cent. The second and third attack are made on either side of the median line. The next three doses are given from behind, the patient being turned over. Except when the pelvis is small or where one is using a high percentage tube, a seventh exposure may be directed from front or back, so long as it doesn't overlap any areas already used. All this must be done on the same day, preferably at one sitting. No further irridation need be given for eight weeks; then the rays are directed to the right parametrium. After another eight weeks the third or final treatment is given—mainly to the left of the mid-line.

This treatment is applicable to any part of the body invaded by malignant disease. Results vary according to local conditions.

Given a small malignant growth, still localized within a small area, in a patient whose general health is not impaired

and carefully maintained for some weeks after irradiation, the malignant growth will disappear if treatment has been accurate and complete.

The word "cure" is not used. No one competent to speak uses it. There never will be a cure for cancer; but under certain well-defined conditions, cancer is a curable disease. If we have not yet reached this possibility of cure, we are very near it.

The patient taking treatment is free from pain and discomfort. No anæsthetic is needed. Ordinary duties are scarcely interfered with. It is not necessary to take a bed in a hospital.

Another advantage X-ray treatment has: The dread of operation is largely responsible for the late stage at which many of these cases come under observation. When it becomes generally known that operation is not necessary a larger proportion of these cases will be seen in the earlier and more curable stages.

It must be remembered that these rays produce a secondary radiation of a similar type. The larger the field the greater secondary radiations. In a very small field the secondary is almost negligible. With the introduction of the more penetrating (short wave length) primary ray, with its greater volume of efficiency, came these secondary rays which influence our results more or less.

In conclusion, and by way of encouragement, I shall relate to you briefly the essential details of two or three cases I have treated. In the early part of this year a leading London surgeon asked me to see a lady with a cancer of the right breast; one of those diffuse, discolored, rapidly growing tumours, with enlargement of the axiliary and infra-clavicular glands. He considered it quite unfavorable for operation. The question was, could I so far improve the local conditions as to make surgical intervention feasible? Six weeks afterwards glandular enlargements had almost completely vanished (only one irradiation), the tumor itself had nearly disappeared, had lost all its malignant characters, and the breast itself was almost normal, except for deformity brought about by the shrinkage of the growth. The patient is now wonderfully well, and the question of surgical operation has been shelved indefinitely.

In Mareh, 1921, a man of forty-two, in a very weak and emaciated state, was admitted to St. Bartholomew's Hospital suffering from cancer of œsophagus. The obstruction was practically complete and a gastrostomy was done to obviate death from starvation. He had lost over fifty pounds in the previous five months. A little over a year ago I gave him X-ray treatment at the West-London Hospital. Within three weeks food began to pass through the obstruction, and a day or two later he used the gastrostomy opening for the last time. He has had two irradiations since; he is now back to normal weight, and when it comes to putting away a square meal, he can keep his end up with the best of them.

On St. Patrick's Day of last year I treated a gentleman, who, a few weeks before, had been opened up for obscure abdominal symptoms. Age sixty-seven, and a cachectic appearance, though only moderate loss of weight. A typical carcinoma of the pancreas was found, the opening closed and nothing was done. He was rather upset by the treatment and in a feeble condition for about three weeks afterwards. He then began to take food more freely and steadily improve in every way. At the end of July he was going about as usual, travelling frequently between London and Paris without fatigue, and for the past fifteen months he has not had a single unfavorable symptom.

In July of last year a gentleman was brought to me with what had been definitely diagnosed by a leading urologist as malignant prostate. He had arrived at the catheter stage, was slowly losing weight and just beginning to show signs of a commencing cachexia. He had only one irradiation. The catheter was put away five weeks later; he is now quite well and enjoying life.

In January of this year a gentleman was examined radiographically for dyspnœa, among other symptoms, and found to have a large growth in the upper right thorax, obliterating the upper lobe and bulging down over the middle lobe in front. The diagnosis was a sarcoma, possibly an encysted hydatid, and himself regarded, for all practical purposes, as a dead man. In February I was approached on the question of X-ray treatment, and, owing to his weak, emaciated condition, and the general seriousness of the case, I had no hesitation in declining to treat the case. I felt that the immediate effect would

probably kill him. I was extremely sorry, because he was one of those most excellent men who had spent practically the whole of his active period of life, and nearly all of a not inconsiderable income, in helping and administering to the wants of others less fortunate than himself; altogether a most charming personality, with a delightful sense of humor, and not devoid of some of the best sporting instincts, as you shall see. He and his immediate relatives were quite alive to the seriousness of the situation, as well as the reasons I gave for advising against X-ray treatment. Two or three days later I was approached again, with an urgent request to take the case in hand. The patient and his friends took the view that if I were correct the worst that could happen would be anticipation of what seemed the inevitable end, and if this did happen he would prefer it to lingering on. On the other hand, being a man with a clean medical history, who had always been in excellent health, he felt that he had a chance, and was ready to take all risks if I would consent to let him have "a run for his money." There was, of course, no alternative. He came on a stretcher, by ambulance, and it was with no small sense of relief that I saw him back into the ambulance still alive, after the treatment was over, which I carried through thoroughly and completely. I saw him a few days before I left London. Considering the poverty-stricken condition of Harley Street neighborhood, I chided him for his lack of consideration in bringing such a picture of rude, rugged health into the district. For the first few days he felt more than usually prostrated, but this passed off. About ten days later the dyspnea began to subside and steady, general improvement set in, continuing for several weeks. A second irradiation was given in May, as he seemed to have arrived at a stationary condition. Again rapid improvement set in, and continued up to the time I last saw him—the day the second plate was taken, and a third irradiation was given to further shrink up the mass that still remained. At present he looks in perfect health, goes about briskly like any ordinary man of his age (43). He still refrains from his favorite game, lawn tennis, more out of respect for his medical advisers than from his own inclinations, but quite thinks he will have a game before the summer is gone.

# UNIVERSITY OF TORONTO MEDICAL ALUMNI ASSOCIATION

*Presidential Address.*

Dr. H. B. Anderson.

---

As you have already been informed, this general meeting of the graduates in medicine of the University of Toronto, including Trinity, Victoria and the Toronto School of Medicine, has been called for the purpose of furthering the organization and objects of the University of Toronto Medical Alumni Association, inaugurated at a meeting held in University College, June 1st, 1922. .I wish at this time to express my appreciation of the great honour, unsought and unexpected as it was, of having been chosen President of so large and distinguished a body. It is in a very chastened spirit and with much misgiving as to my ability and fitness to rise equal to its duties and responsibilities, that I have accepted the office, but I wish to assure you that no effort of mine shall be spared to justify, insofar as one is able, the confidence placed in me. With the collaboration and counsel of the excellent group of officers and the active support and sympathy of the membership, for which I earnestly and confidently appeal, we may hope to call into being an organization which will fittingly represent in dignity and influence so distinguished a body as the Medical Alumni of the University of Toronto. We must fully realize that under present circumstances the successful establishment of a Medical Alumni Association is no easy matter. If this is to be accomplished, it is evident that our relations to the organization must be considered with regard to the future interests of the University and the whole body of the Medical Alumni rather than from the view point of past differences. It requires a highly organized, elastic and efficient body—individual or corporate—to adjust itself rapidly to evolutionary—at times almost revolutionary—changes, but we live in the future—not in the past. I am confident that the officers whom you have selected, recognizing that they are the representatives of the Association rather than individuals actuated by personal motives or affiliations,

may be trusted to act fairly and impartially in the discharge of their official duties. Only in this way may we hope to establish confidence and attain success.

The question has repeatedly been asked: of what use is such an organization to the Medical graduates and what purposes have you in view? In answer to this I have attempted to outline some matters of common interest that should be sufficiently vital to furnish a bond of union between the various groups of which our membership is composed—practitioners, consultants, specialists in various branches, clinicians, laboratory workers, public health officers, the staffs of competing hospitals, students of the old Toronto, Trinity and Victoria Schools and of the present amalgamated Faculty of the University: citizens of Canada and those who have gone elsewhere. What are the factors of association and interest common to this whole body of medical graduates to induce a large number of them to join the Medical Alumni Association and pay an annual fee of $3.00 or still better to become life members on the payment of $50.00; to give their active co-operation in the organization and future work of the Association; to ensure meetings of the Association of sufficient importance and interest to make the attendance of the members worth while?

It is obvious that the objects of the Association must be such as to appeal to the whole body of Medical graduates rather than to any group or particular interest. This does not mean that the interests of the various groups may not, in themselves, be worthy of a sympathetic attitude and friendly co-operation on the part of the whole association and the endeavour should be to harmonize rather than to antagonize or oppose. However, I have no hesitation in saying, that the less any group attempts to use the organization for the furtherance of its own special ends, no matter how worthy they may be in themselves, the more readily will the harmony and usefulness of the Association be preserved and extended.

The direct benefits of membership in the Association will be less important than the indirect and the sentimental and altruistic more than the material, but one may mention the following:—

1. Receiving the *University Monthly*, the usefulness and influence of which can be greatly extended by the backing of a strong Alumni organization.

2. The utilization of the central offices of the Association for purposes of procuring seats for games and tickets for Alumni functions, University lectures, meetings, etc.

3. The benefits that will accrue from a closer acquaintance and more intimate association with fellow graduates with the possibilities of co-operation replacing factious opposition. It is better to hang together than to hang separately.

There are objects of more general interest which should appeal to the medical graduates, in common, and justify their identification with the work of the Association:

(*a*) To maintain and cultivate an *esprit de corps* among the members.

(*b*) To uphold the honour, promote the interests and increase the usefulness of our *alma mater* in its various activities, as a great institution of higher education and culture to which we owe allegiance as graduates and in which we are interested as members of one of the learned professions and citizens.

We should never forget that we are all *University* men, and we should not allow ourselves to consider the institution and its interests as the special province of any group of officers, teachers or administrators.

(*c*) To exert the corporate influence as graduates of the University in promoting to the fullest degree one of the purposes which first called the institution into being, viz., the fostering of distinctive Canadian ideals, the furtherance of Canadian interests and the quickening of the national life: in this way opposing undue alien influence from whatever quarter it may appear.

(*d*) To uphold and foster especially the more purely academic interests of the University and to use our influence toward conserving academic honours, distinctions and preferment, as far as possible, for academic service and achievement.

(*e*) To consider and discuss matters of educational policy and procedure affecting the graduates in medicine in their various groupings and to transmit the majority opinion to the governing, academic, and administrative bodies of the University.

In this connection I wish to draw your attention to the fact that under the University Act of 1906, in addition to the Board of Governors to direct the financial affairs of the Uni-

versity, and the Senate to deal with Academic matters, a body known as Convocation was provided for. This body consisting of all the graduates of the University with the Chancellor as Chairman, was to hold meetings and discuss and express opinions upon university questions. Copies of the minutes and resolutions of Convocation were to go forward to the Board of Governors and the Senate. In the sixteen years since the University Act came into effect Convocation has not been organized or convened so that this feature of the University Act has been a dead letter. Some may say that it is the fault of the graduates themselves that they have not set in operation the machinery provided, but personally I do not think the machinery was any good.

The Alumni Federation as it now exists is incorporated under its own charter, with constituent units representing the different departments of the university; it is now a going concern with important duties in hand; it covers a wider ground that that assigned to Convocation under the University Act; it is equally representative of the graduate body. It has therefore been proposed that the University Act be amended so as to constitute the Alumni Federation and its constituent units the body competent to express the views of the graduates to the Governors and the Senate.

1. The Federation to deal with matters of interest to the graduates as a whole and, therefore, such as might be dealt with by a composite body.

2. The various Alumni units such as the Medical Alumni Association, to deal with matters pertaining to the particular departments with which they are connected. If this amendment is accepted it will add greatly to the importance and influence of this association and make membership not only a duty, but an advantage to every graduate interested in the university's welfare.

3. To advocate the extension of post-graduate work of the University for the purpose of maintaining and developing the clinical and scientific interests of the great body of practitioners and to enlist its sympathy and support in behalf of our various medical associations. The guiding principle should be encouragement and co-operation, but no corporate or group interference in the internal management or control of other organizations.

There are innumerable possible ways in which an Alumni organization representing 5,200 graduates should be able to render valuable service to their country, their university, their profession and to themselves, if a broad, constructive policy can be developed and maintained. If the representatives of competing business, industrial, labour and other interests can find ground for organization in the advancement of aims which they have in common, it should not be beyond the capacity of 5,200 university graduates, representatives of the oldest of the professions, to do likewise.

I would, therefore, suggest that a representative committee be appointed to frame a platform sufficiently broad to hold all the graduates who are ready to come together to promote the interests which we have in common, and that such committee seek the counsel and co-operation of the whole body of the medical Alumni.

After disposing of routine business to-day, there are other matters of importance which will come up for consideration.

As you are all aware a committee of the Legislature has been appointed to inquire into and report upon certain matters touching the government and administration of the university and especially of its medical faculty and hospitals. The council of the Alumni Federation is to be represented before the committee and will express its views on questions within its province. As representatives of the body of graduates most intimately concerned in some of the questions which will arise, it seems to me not only desirable, but a responsibility and duty incumbent upon us, to express our views at the proper time.

Various topics for discussion at this meeting have been suggested, but in the opinion of your executive it was deemed inadvisable and improper for us to consider matters in connection with which we are not in possession of official documents and in regard to which the facts which would serve as a basis for deliberation or well considered opinions, have not yet been established.

From what transpired in a meeting of the Council of the Alumni Federation, however, I am in a position to mention certain questions which will certainly be brought before the Committee.

1. With reference to graduate representation on the Board of Governors. In this connection it will be recommended—contended by some—that the President of the Alumni Federation and the Presidents of University College Alumni Association, the Medical Alumni Association and the Alumni Association of the Faculty of Applied Science, should be appointed Ex-Officio, and in addition, that a certain number be elected by the graduates.

2. That the Senate be reduced in number and its duties be largely increased.

3. That the Alumni Federation and its constituent units be designated as the body to represent the opinion of the graduates and to function in place of Convocation.

4. Representation with reference to the question of appointments and dismissals or retirement from the University teaching staff.

These are, therefore, questions which may properly be discussed at this meeting.

# Society Proceedings

## PRESIDENT OF ROCKEFELLER FOUNDATION DELIVERS NOTABLE ADDRESS

Two great world movements, as wide apart as death from life, formed the subject-matter of notable addresses delivered within the span of one week to audiences in Convocation Hall under the auspices of the Royal Canadian Institute. Admiral Sims spoke on the new instruments of war; of poison gas, aeroplanes and submarines, and their comparative effectiveness in spreading death. The progress of a world gradually co-operating against the common enemy, disease, was envisaged in the course of a brilliant address delivered by Dr. George E. Vincent, President of the Rockefeller Foundation.

A tremendous amount of information on the development of medical knowledge from early time; the comparative contributions to the sum total of that knowledge from different

people at different periods; the actual work of co-operation among nations in fighting disease, and the plans and hopes for the future, was crowded into Dr. Vincent's address which was delivered with exceptional rapidity, and interspersed with many sallies of humor. "We have listened to an amazing record of surpassing generosity, executive ability and wonderful common-sense," said Sir Robert Falconer in seconding the vote of thanks.

The action of the University of this city in respect to the recent discovery of a diabetes cure was referred to by the speaker. He noted the fact that there had been no thought of making a monopoly of it; it had been given to the world. He held this up as an interesting and conspicuous example of the spirit which for years had been actuating the medical world.

Again Dr. Vincent referred to the part taken by the University of Toronto in the great subject of world-wide medicine. One phase of international co-operation, he pointed out, was the graduate courses, whereby students in the universities of one country continued their courses in special subjects at institutions of another. Here, in Toronto, he said, there was a combination of departments, providing a background for the study of different phases of medicine, which could not be duplicated in the world. He mentioned, in this connection, the anti-toxin laboratories, departments of hygiene and preventive medicine, in the Medical School, and research in public health work.

Supporting his remark that medical knowledge is not the contribution of one nation, but is a great international product, Dr. Vincent ventured far into history. Sanitariums, he said, were not alone of this generation, nor of Battle Creek, Michigan, but during the ascendency of Egypt there had been about eighty of them scattered around the shores of the Mediterranean.

A considerable part of Dr. Vincent's address dealt with the Public Health Committee of the League of Nations. He explained its work in connection with the typhus plague in Middle Europe, the gatherings of statistics and the arrangement for quick warning of epidemics. The fact that forty-two countries were represented in this committee was emphasized by the speaker as a salutary influence toward worldwide co-opera-

tion in fighting disease. He traced the history of plagues and epidemics to show that they constitute not a national, but an international problem. Under the League of Nations, he said, cordons can be thrown around infected areas at once and quick telegraphic warnings despatched to all nations.

Touching on the work of the Rockefeller Foundation, Dr. Vincent explained its policy as one which aimed merely to co-operate with the different Governments. It was not the intention to attach any arbitrary conditions to grants, but merely to pioneer, to make demonstrations, and, when demonstrations are successful, to withdraw. The Foundation was interested in medical education throughout the world, he said.

Dr. Vincent was reluctant to predict the dawn of the "hygienic millennium;" great expectations had in recent years been too often shattered, but he thought it not too much to hope "that scientific knowledge, directed in recent years to destroying human life, might now be turned in some measure to healing."

A vote of thanks was moved by Rt. Hon. Justice Duff, and seconded by Sir Robert Falconer, who referred to the recent endowment of $1,000,000 which the University received from the Foundation. It was given, he said, without any attempt to interfere with the administration—"a model of the way in which a gift should be offered."

---

## DR. F. C. WOOD LECTURES BEFORE ACADEMY OF MEDICINE

Every year thousands of persons are dying of cancer who could be cured if they would take ordinary precautions. Such was the gist of the message delivered to the Toronto Academy of Medicine on November 14th, by Dr. Francis Carter Wood, director of cancer research, under the million-and-a-half dollar Crocker fund at Columbia University, New York. Educational publicity is Dr. Wood's slogan, and the abolition of quacks offering to cure cancer with nostrums, diets, plasters and salves.

Teach the public that treatment of the first symptoms spells salvation, he told the physicians. Spread the urgency of thorough diagnosis the instant there is a hint of something

wrong; scatter abroad by every possible means the truth that, once cancer gets beyond a certain stage there is no hope; prevail upon the Press to co-operate and utilize the movies to bring home to every man and woman the truth that delay is fatal, declared Dr. Wood.

The address was illustrated with photographs and charts thrown upon the screen, technically intelligible only to the profession. But the pictures of victims of cancer were shocking enough to put fear into the heart of any layman who chanced to see them, and to bring home to him with tremendous force the truth of Dr. Wood's warnings against delay.

So far, said Dr. Wood, the knife alone had proved successful in checking the progress of the disease, although occasionally good results had been obtained in the earliest stages of the disease by the use of radium and the X-ray. He showed three pictures, however, of an advanced case of cancer which, upon the surface, had apparently yielded to the X-ray treatment.

There was only one way in which to combat cancer, he emphasized, in conclusion, and that was through publicity. Only by impressing upon the public the absolute, vital necessity of instant action the moment a symptom was discovered could the high death rate be checked.

---

## THE SPOTLIGHT

### Dr. Malcolm MacEachren.

Among men the doctor, of women the nurse, are the two choicest personifications of humanity's service to humanity. In the end, maybe the most lustrous diadem will go to the woman with the angel's tread. Even alleviators of suffering have their faults, being like the rest of us, not more than clay with a brain, and flesh with a soul. But, take them by and large, doctors and nurses deserve more homage than they receive. Sometimes they hunger for a little plain gratitude as well as a cheque, and when they get it—well, next time you pay a doctor's bill that means sunshine instead of gloom for

one of the family, just put "with pleasure" after the amount you direct the bank to pay, and watch the proof that you have administered a tonic.

Just now the most vital interdependence between doctors and nurses and the public is being demonstrated by the job which brings Dr. Malcolm MacEachren, director-general of the Victorian Order of Nurses, to Toronto. Last winter the executive of the Order looked for a high-standing doctor to survey the whole field of Canadian nursing devotion, with a view to promoting the most effective co-ordination of and co-operation between all the agencies which minister to suffering when the doctor is by, or ought to be. The superintendent of Vancouver General Hospital was chosen. He didn't have to give up his job in Vancouver, even though he came to the Order at ten thousand a year. Since early May, 1922, he has been on the go, interviewing persons and bodies, addressing meetings, and generally loading himself up with first-hand information and views (not always the same thing) about nursing in Canada, the like of which hasn't heretofore been centred beneath one hat. In November he made a first report—an instalment, if you like, begotten of visits to over eighty cities, towns and other places in nine provinces. A recommendation that an extra $25,000 a year be found for the central administration of the Order, rather scared some of the good souls who are deeply interested in this benevolence. One, not rich himself, but the handler for many years of other people's wealth, mourned because already the rich are being taxed to the limit. But the tide of depression, which made the reporting director-general wonder what was going to happen, turned into an optimistic flood when the oldest man in the meeting, alluding to a Book, the authority of which is more real and apparent, asked since when did giving impoverish a man? And wasn't it true that there is that scattereth and yet increaseth?

The Director-General of the V.O.N. is one of those Canadians to whom discerning persons, inured to the ancient ways of a more ancient land, take off their hats in lieu of special obeisance to noble ambition and unremitting service. He belongs to Victoria county—which, for all its local patriotism, is not one of the Ontario counties which flow with milk and money. His people couldn't send him to the University;

Lindsay Collegiate was the limit of his pedagogically educated ladder. He knew Lindsay when the editor and politician who became General Sir Sam Hughes was still sometimes alluded to as Coal Oil Sam. He was among those who were aware that "Canadian Men and Women of the Time" once in awhile proves that the laborious Morgan could sometimes nod—as he does when its Flavelleiana represents Sir Joseph as having been for a long period in the dry goods business at Lindsay with his brother, J. D.—the J. D. who was a great miller and greater curler, and, perhaps greatest of all, as the glorified policeman in charge of O.T.A. J. D. denies that J. W., his young brother, was ever in the dry goods business in Lindsay.

Lindsay Collegiate was the jumping-off place for Malcolm MacEachren's entry into the scholastic field. Four years and a half he taught school in his native county, but the work was only a jumping-off place for the medical profession. He graduated in medicine at McGill in 1910, went at once to the Royal Victoria as house surgeon, the next year, being a mature sort of youth, he joined the Montreal Maternity Hospital as house surgeon and medical superintendent, and the year before the war was given charge of the premier hospital of Vancouver.

The hospitalers are in a class of their own. They have not only revolutionized hospitals during the current generation, but have turned some immemorial features of family life inside out. One of these days it will be a reproach to a famous man to have been born in his father's house. Out on the prairies there are municipal hospitals where young grain growers see the light, because production is becoming a fine art. Dr. MacEachren has been for two years in charge of hospital standardization in Canada, which suggests that medicine has learned nothing from gasoline, whose prophet is Henry Ford. There is an American Hospital Association, and Dr. MacEachren is its president-elect. He organized and headed for three years the British Columbia Hospital Association; and also put on the map the greater Vancouver Public Health and Welfare Association. As a Rotarian he helps direct the Rotary Institute for Chest Diseases in Vancouver, where the damp climate tends to make people just a little too chesty.

Just what the co-ordination of public nursing services can effect no doubt Dr. McEachren can say. The Victorian Order is older than a good many of its nurses, who render such magnificent service whether their patients can pay in cash or can only reward in gratitude. The order is a legacy of Lady Aberdeen's vice-regal activities. Her Excellency was always regarded as profoundly wise—for one thing she could never sink herself in her spouse. But she worked like a trojan for social uplift, as she apprehended it. The splendor of the Victorian Order's record every day refutes the notion that the marchioness was merely fat, fair and fussy.—*The Toronto Daily Star.*

## THE CANADIAN TUBERCULOSIS ASSOCIATION

An effort was made by the Secretary of the Canadian Tuberculosis Association on his trip to the western provinces to have the dates for the Canadian Health Congress for 1923 fixed so that June 4th, 5th, and 6th could be occupied by the Canadian Child Welfare Conference, which will probably be held in Winnipeg and the Canadian Health Congress, which will probably be held in Alberta, to begin on the 6th and continue to the end of the 9th. Also that arrangements be made so that the programmes for the two conferences on the day of the 6th should be devoted in each case to considerations which would not cause conflict or overlapping to the interests of those attending both conferences. Further, this week would permit eastern Canadians and U.S. Tuberculosis workers to travel west by the Canadian route, meet in Alberta and discuss Canadian Tuberculosis undertakings and proceed to the coast with a week intervening between the Canadian week and the meeting in Santa Barbara, the week of Monday, June 18th, of the National Tuberculosis Association.

A meeting of the Executive of the Canadian Tuberculosis Association was held in Ottawa at 7 p.m., Nov. 28th, in the University Club. Important matters of policy were decided upon then.

WANTED

There exists a vacancy on the Canadian staff of detail representatives of the Denver Chemical Mfg. Co., which will be filled January 1st. Applicants for the position should have medical or pharmaceutical training. One who speaks French and has had some experience detailing will be given preference. Salary $2,400.00 per annum with a travelling allowance.

Applications for the position will be received at their New York City office, 20 Grand Street.

# Book Reviews

*International Clinics.* A Quarterly of illustrated clinical lectures and especially prepared original articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene and other topics of interest to students and practitioners by leading members of the medical profession throughout the world. Edited by Henry W. Cattell, M.D., Philadelphia. Volume III, 32nd series, 1922. Philadelphia and London: The J. B. Lippincott Company. 1922. Price, $2.50 per volume, or $10.00 for series of four.

This volume of the International Clinics is in keeping with the usual high standard of articles which appear in this well known publication. The subjects cover a wide field, but are written clearly and concisely so that the information may be readily absorbed and assimilated by the busy practitioner. All the authors are well known authorities on the subjects with which they deal. Excellent illustrations are used when necessary to elucidate the text. Recent discoveries, improvements in operative technique, and new remedies are carefully explained so that they may be more generally employed to alleviate the sufferings of mankind. A few of the articles are as follows:—Some Newer Aspects of Chest Surgery, by Charles Lockwood; Some Nervous Syndromes produced by Lesions of the Spine, by Peter Bassoe; Rickets, by James Burnet; Feeble-minded and Backward Children, by Bosworth McCready; and, Shock and Fatigue with Pulmonary Changes, by F. B. Turek.

*The Treatment of Fractures,* with notes upon a few common dislocations, by Charles Locke Scudder, M.D., Assistant Professor of Surgery at the Harvard Medical School. Ninth edition, revised, with 1,252 illustrations. Philadelphia and London: The W. B. Saunders Company. Canadian Agents; The J. F. Hartz Co., Limited, Toronto. 1922. Price, polished buckram, $8.50.

We know of few medical authors who have in the past quarter century been called upon to revise a book nearly ten times. It is phenomenal, and we heartily congratulate Dr. Scudder, upon his ninth edition. The mere fact that a volume has met with such a reception renders it unnecessary to say anything by way of a review, though we might mention *en passant* that the new volume has been thoroughly re-edited and a lot of new material added as a direct result of the treatment of fractures found successful during the World War. For this reason alone, our returned men in the profession will find the book particularly interesting.

---

*Lectures on Dietetics* by Max Einhorn, M.D., Emeritus Professor of Medicine at the New York Postgraduate Medical School and Hospital; Visiting Physician to the Lenox Hill Hospital, New York. Illustrated. Philadelphia and London: The W. B. Saunders Company. Canadian Agents: The J. F. Hartz Co., Limited, Toronto. 1922. Price, cloth, $2.25 net.

In this book, Dr. Einhorn presents the subject of dietetics from the viewpoint of a physician fully cognizant of the importance of this science in present-day treatment of disease. While these lectures are prepared for medical students, any one interested in the care or feeding of the sick may profitably read this book.

The absence of technical terminology, and the clearness and conciseness of expressed opinion, are well worth noting. These opinions are those of leading dietists and physiologists as well as those of the author. One does not necessarily need to agree with all of these to consider the book of value. Much of the subject matter is not new, but it is certainly well pre-

sented in an easy, intelligible form. No book could be published at the present time dealing with medical or dietetic treatment of disease which might not need complete revision in a very short time, as opinions along these lines are constantly changing.

As a foundation for his lectures, Dr. Einhorn first reviews the principles underlying diet and nutrition of the normal individual, and he discusses the digestibility of various foods. Then he takes up dietary treatment of fevers, diseases of the intestinal tract, diabetes, nephritis and gout. Several chapters are devoted to artificial feeding.

The aim of the book, to contribute toward the spread of a knowledge of dieteties, is creditable. The author feels that a knowledge of this subject increases the efficiency of the physician.

---

*The Surgical Diseases of Children.*—A handbook for students and practitioners by Frederick C. Pybus, M.S., F.R.C.S., Assistant Surgeon, Royal Victoria Infirmary, Newcastle-on-Tyne, etc. With 288 illustrations. London, England: H. K. Lewis & Co., Limited, 136 Gower Street, W.C. 1. 1922. Price, 18s. net.

This small book is composed of a series of short lectures and papers on the "Surgery of Childhood," which have been used by the author in his clinical teaching in Newcastle-on-Tyne. The book is in no sense complete, as it only deals with those conditions which are usually presented to students who are concerned chiefly with surgical principles. It includes a review, however, of most of the conditions met with in general practice.

As a text-book for students the book is of value, as it presents its subject in short and clear form, and the text is illustrated by many photographs, diagrams, and drawings which serve to hold the reader's interest. The criticism may be offered that, as a book for students, insufficient stress is placed on the underlying pathology upon which the clinical

conditions depend, and no effort is made to base the treatment recommended upon a clear understanding of the pathology. This defect destroys the value of the work for students of other localities than Newcastle, and it is unlikely that it will be recommended as a text-book in many medical schools.

As a reference book for practitioners, the book is useless, as the various articles are little more than an introduction to the subject. To the practitioner, treatment is by far the most important subject discussed in text-books, and this book refers to treatment in only the most elementary way. No book of such small proportions could possibly cover the Surgery of Childhood sufficiently well to satisfy the enquiring practitioner, who is anxious for definite information to help him with cases occurring in his practice.

---

*The History of Medicine in its Salient Features* by Walter Libby, M.A., Ph.D., University of Pittsburgh. Author of "An Introduction to the History of Science." With illustrations. Boston and New York: The Houghton Mifflin Company. 1922. Toronto: Thomas Allen. 366 Adelaide Street West. Price $3.00.

This is one of the most interesting books that has reached our editorial office in years. To a physician, the volume is one that should, and doubtless will, be read from cover to cover. Commencing with a frontispiece of John Hunter, the book contains a fund of information, also splendid engravings of Hippocrates, Marie-Francois-Xavier Bichat, Francois Magendie and others. The text is devoted to such subjects as, Hippocrates, the Father of Medicine, Roman Anatomy and Surgery, the Revival of Anatomy in the Sixteenth Century, William Harvey and the Revival of Physiology, Comparative Anatomy (John Hunter), Morbid Anatomy (Morgagni), the introduction of Anesthetics, Antiseptic Surgery (Lord Lister), the History of Syphilis, etc., etc. Not only should this book be in the hands of the profession, but in every library in the continent.

# The Canadian Journal of Medicine and Surgery

A Journal published monthly in the interests of Medicine and Surgery

VOL. 53 TORONTO, FEBRUARY, 1923 No. 2


## Editorial

### Office Psychology

When a patient enters a doctor's office, it is well if he is favorably impressed with the personality of the physician and also with his environment. The reception by the doctor or his nurse or attendant should be courteous and kindly; the visitor should be made to feel as much at ease as possible, while waiting for his or her "turn." The waiting room or rooms should be ample, comfortable, airy, bright and spotless. The tints of wall, ceiling and floor should be pleasing and restful. The furniture should be fitting. The chairs easy and not too near one another. Suitable literature should be provided—interesting and amusing.

It is well, if possible, to have hush doors between the waiting and the consultation room. Patients leaving the latter room should preferably be let out into a hall, and not back through the waiting room.

The consultation room should be warm and well-lighted, and, as sound proof as possible. All furnishings should harmonize. Equipment should be complete, and all instruments, utensils and other articles needed for examination and treatment out of sight, but conveniently handy. The instrument cabinet door should be opaque. The lay-out for the minor operations performed in an office should not be conspicuous.

Too little thought, we fear, is given to these matters. What led us to comment on this matter was the observance of one of our confrère's *sanctum*— Much disarray and disorder were noted. Everything was pell mell, and not too clean. There seemed no systematic arrangement of supplies. The desk was heaped with papers, pamphlets, odds and ends. Anything wanted from the pile would require several minutes' hunt to find. Such offices, we hope, are few and far between.

Our most successful men do not allow such things to be. In their offices there is a place for everything and everything in its place. Everything is in apple-pie order. The desk is cleared when the correspondence and clerical work are finished. All correspondence and histories are properly filed in a modern filing cabinet. The card-index for looking

up cases or accounts is kept absolutely correct, all cards in the box being always in the right place and at hand for inspection at any moment.

The instruments in their cupboard are all shiny and in perfect condition. The scalpels are sharp. Each instrument has its place. The office book case, with its quota of ready-reference books, is within easy reach of the office chair; and every volume is in its allotted place.

It would pay our careless brother to visit an office that is kept right up-to-date. It would then be wise for him to visit a few of the numerous houses which supply office furniture, filing cabinets, tables, desks, and other fittings and apparatus. There the clerks will be only too happy to show him the latest filing devices and systems of bookkeeping. Then he should spend a few dollars in fitting up his office.

Should he lack time himself it will pay him to engage someone to look after these when once installed, and see that everything is kept in order. He will be repaid for subscribing for a magazine called *System* and reading carefully the articles in it having to do with office work.

We venture to say that if this advice is followed the increased practice which will come as a result of the introduction of these almost indispensable features will more than pay for their installation.

We must remember that the appearance of the office gives a clue to the character of the doctor. Each man excretes his own shell.

## Cataract

At the Ophthalmological Congress in August, 1922, J. Burdon-Cooper presented a paper on this subject. Sub-capsular senile cataract, he holds, is a chemical decomposition of the lento-proteid, due to alterations in the whole organism. The commoner causes of opacity in the crystalline lens, are traumatisms direct or in the vicinity of the lens; heat, cold, chemical poisons, electric discharges, light, errors in refraction, general diseases, such as Bright's disease, diabetes, arterio-sclerosis, malaria, phosphaturia, oxaluria, ingestion of poisons like ergot; tetanic spasms, changes in the ductless glands, autotoxaluiras, and heredity. All pathologic states of the eye may produce cataract secondarily.

The food of the lens is secured by it through a modified endosmosis of the intra-ocular fluid, a molecular imbibition and in all probability a specific affinity of its protoplasm. Disturbance of this nutrition is the initial factor and cause of cataract. When the nutrition is interfered with, deleterious substances obtain access to its protoplasm, resulting in secondary chemical changes, the products of which constitute the opacity. The lens in the evolution of senility becomes sclerosed, a process which consists in the transformation of its protein from soluble to insoluble albuminoid. Pigmentation when present is due to the oxidation of tyrosin, the amino acid being split off from the albumin molecule probably by a very slow hydrolysis, and oxidized immediately by an oxidace in the lens.

Burge found in lenses removed for cataract the potash, which constitutes about 38 per cent. of the ash in the normal lens, reduced to 9.8 per cent., and the calcium increased from 0.08 per cent. to 15 per cent. There was also a definite increase in the magnesium. The Indian lenses examined by Burge showed a large amount of silicates without any increase in the magnesia, which he attributed to diet. Using ultra-violet light for the artificial production of cataract, he found no immediate effect of the rays on the lens proteid, but when there was an excess of lime and magnesia in the fluid in which the lenses were suspended, coagulation occurred with resulting opacity.

Burdon-Cooper does not think that the changes we speak of as a senile cataract are merely intensified or accelerated senile changes.

Dor holds that cataract is not a dehydration but a hydration, because (1) a cataractous lens contains more water than a clear lens; (2) in cortical cataract the nucleus gains and the cortex loses in density and albumin escapes; (3) the percentage of soluble albumin is less in cataract than in the clear lens, and sometimes disappears altogether from the nucleus; (4) the electrical resistance of the aqueous is diminished. Burdon-Cooper thinks Dor does not mean hydration, but hydrolysis. No chemist, he thinks, could imagine that hydration (added water) without decomposition would account for the presence in the lens of the dissimilar chemical substances found there.

By hydrolysis, Burdon-Cooper means the assimilation by the proteid molecule of the lens of the constituents of a molecule of water, with the production of a new substance.

Schoen considered that cataract was brought about in eyes in which there was increased effort of accommodation, causing tears in the capsule between the zonular filaments. Burdon-Cooper has no doubt that refractive errors have a decided influence on the nutrition of the lens in the production of cataract. He is convinced that if during the working decades of life important refractive errors were corrected, and this came to be recognized as part of a prophylactic treatment, we would in time see a proportionately lessened incidence of at least one type of cataract.

Fraenkel finds in cataractous cases quantitative modifications in the mineral elements of the urine, with diminution of urea and increase in chlorides. Grilli finds that cataract occurred in individuals with senile kidney. The essayist finds a definite inefficiency on the part of the kidney in senile cataract.

---

### Privileged Testimony

Just in how far "the truth, the whole truth and nothing but the truth" can be demanded by the Court from certain hitherto "privileged" witnesses has recently come under discussion on both sides of the Atlantic.

The British Medical Association has concerned itself over the problem of medical secrecy; while a strong address, delivered recently by a noted Boston lawyer before a Bar Association, takes exception to the existing rule in Court procedure that exempts a lawyer from testifying, if called upon in Court to testify the things which his client has divulged to him.

In both medical and legal cases the reason given for secrecy is that it would not be consistent with honor that these professional advisers should reveal the confidential admissions of client and patient.

The lawyer has a definite ruling to support his stand, questionable though it may be under modern conditions. But the doctor has only his code of professional ethics to rely upon.

It appears to have been the old-time view held by the Court that it would be better for criminals to escape just punishment rather than require a lawyer to deface his honor by revealing that the criminal has confessed his guilt. A man's honor was a fragile and curiously exalted possession two or three centuries ago. To-day justice and truth are lifted high above it.

There is a very natural and commendable dislike in both professions—especially the medical—to revealing in public the confidence given in private by one under necessity of pain or trouble. So strong and general is this feeling, that outside the Court the right course is unquestioned. But despite the difficulties and unpleasantness of the posi-

tion, it appears impossible to draw any distinction between doctors and lawyers and other lay witnesses when the disclosure of truth is essential for the administration of justice.

It should be definitely laid down by the Court as an unalterable rule that no secrets can be withheld from judge and jury for any reason whatever. Then the doctor's dilemma will be solved. It will not be what he *may* tell but what he *must* tell; and knowing this the patient must take his chance in his previous disclosures.

---

### Acute Dilation of the Stomach

Doolin's report of this condition in *The British Medical Journal* is instructive.

1. Of 31 cases treated medically, 29 died, 93 per cent.
2. Of 29 cases treated by operation, 21 died, 72 per cent.
3. Of 54 cases treated by lavage, 25 died, 50 per cent.
4. Of 30 cases treated by posture, 2 died, 7 per cent.

The postural treatment was first recommended by Schnitzler of Vienna. It consists in turning the patient over on the abdomen, with a large pillow beneath the pelvis, and the foot of the bed elevated. In this position of the trunk, the fluid which has collected in the lowest portion of the stomach is displaced upward by gravity, and is then easily evacu-

ated out of the stomach. Relief is thereby given from the drag of the loaded stomach on the intestine: the essential feature of this position is the relief it affords from the mechanical obstruction of the duodenum.

---

## Taking Stock

We are now urging upon our patients the desirability of periodic physical examinations as a preventive health measure. We advise a stock-taking of bodily conditions to detect weak points, and map out a course of life to overcome such lesions—a mode of life to avert threatened breakdown.

There are times and seasons when, instinctively and wisely, we apply the same process to our mental and spiritual make-up, when we gauge the measure of our advancement in life's relationships; and, conscious of strain or friction or hardening of spiritual arteries, we endeavor to readjust our attitude toward our daily outlook and sphere of labor.

A medical man looking backward over his year's work, naturally takes stock in order to find in how far he has made good in the ordinary acceptance of the term: how much his practice has increased, what greater degree of skill he has acquired, and how far he has advanced in the estimate of his profession. If the inventory be satisfactory and the social and professional credit sheet shows distinct advance, he is disposed to feel—and with reason—that he has made satisfactory showing and marked

progress. But the examination should go deeper if it is to be thorough. Has he, as a physician, maintained the ideals with which he started out? Does he feel that full success means the supremacy of these ideals, and still resolve to achieve them? Has his professional advance been made with no lowering of standards and no tarnished honor?

We need to clarify our ideas of success, so that we may measure aright the degree to which we have attained. The meaning of the word success has been narrowed down to material standards only; and the temptation is to acquiesce in the world's viewpoint, and to make that our goal.

Money and fame mean as much to a doctor as to any other worker, and if they can be won without lowering professional ideals, it is well.

But progress is not measured by the material distance gained. There is a sane and high failure which is, by spiritual paradox, the most glorious success.

We may show a poor year's monetary balance sheet, and yet be able to report progress on the highway to a professional success, of which we never shall be ashamed.

# The Canadian Journal of Medicine and Surgery

Toronto ——— Canada



## Board of Editors

THE PRINCIPLES OF SURGERY AND SURGICAL PATHOLOGY:

**Irving H. Cameron, M.B., LL.D., F.R.C.S., England; F.R.C.S., Edinburgh; F.R.C.S., Ireland; F.A.C.S.;** Emeritus Professor of Surgery, University of Toronto.

PRACTICE OF SURGERY:

**N. A. Powell, M.D., C.M.,** Emeritus Professor of Medical Jurisprudence, University of Toronto. **Herbert A. Bruce, M.D., F.R.C.S., Eng.,** Associate Professor of Clinical Surgery, University of Toronto.

HOSPITAL ADMINISTRATION:

**J. N. E. Brown, M.D.,** Toronto, former Superintendent Toronto General and the Henry Ford Hospital, Detroit, **A. R. Haywood, M.B., M.R.C.S., L.R.C.P., Eng.,** Medical Superintendent, Montreal General Hospital.

OPHTHALMOLOGY:

**J. M. MacCallum, M.D.,** Chief, Department of Ophthalmology, Toronto General Hospital; **Walter W. Wright, M.B.,** Assistant in Ophthalmology, Toronto General Hospital.

NOSE, THROAT AND EAR:

**Perry G. Goldsmith, C.B.E., M.D.,** Chief, Department Ear, Nose and Throat, Toronto General Hospital; **J. K. Milne Dickie, M.D., F.R.C.S., Edin., Ottawa.**

PEDIATRICS:

**Augusta Stowe Gullen, M.D.,** Toronto; **Alan Canfield, M.D.,** Visiting Physician, Hospital for Sick Children, Toronto; **George Smith, B.A., M.B.,** Associate Physician, Hospital for Sick Children, Toronto. **Helen MacMurchy, M.D.,** Chief, Division of Child Welfare, Department of Health, Ottawa.

MEDICINE:

**J. T. Fotheringham, C.M.G., M.D., LL.D.,** Associate Professor of Clinical Medicine, University of Toronto; **Jabez H. Elliott, M.D., F.A.C.P.,** Past President, Academy of Medicine; **Dr. Julian Loudon, B.A., M.B., M.R.C.S., Eng., L.R.C.P., London, F.A.C.P.,** Physician-in-Chief St. Michael's Hospital, Toronto; **Lewellys F. Barker, M.D.,** Baltimore, Emeritus Professor of Medicine, Johns Hopkins University.

CLINICAL MEDICINE:

**H. B. Anderson, M.D.,** Toronto; **George S. Strathy, M.D., L.R.C.P., M.R.C.S., Eng.,** Clinician, Department of Medicine, University of Toronto; **W. B. Thistle, M.D., L.R.C.P., London,** Associate Professor Clinical Medicine, University of Toronto. **R. T. Noble, M.D.,** Past President, Academy of Medicine, Toronto; **G. W. Ross, M.A., M.B., M.R.C.P., London, Eng.**

MENTAL AND NERVOUS DISEASES:

**N. H. Beemer, M.D.,** Medical Superintendent, Ontario Hospital, Mimico; **Camphell Meyers, M.D., M.R.C.S., L.R.C.P., Eng.**

GYNECOLOGY

**F. W. Marlow, M.D., F.R.C.S., England;** Associate Professor of Gynecology, University of Toronto.

OBSTETRICS:

**J. Gordon Gallie, B.A., M.D.,** Assistant Department of Obstetrics and Gynecology, Toronto General Hospital.

DERMATOLOGY:

**D. King Smith, M.B.,** Clinician, Department of Dermatology, University of Toronto.

ROENTGENOLOGY:

**W. M. Carrick, M.D.,** The Mayo Clinic, Rochester, Minn.

MANAGING EDITOR:

**W. A. Young, M.D., L.R.C.P., Eng.,** Toronto.



**Address all communications to "The Canadian Journal of Medicine and Surgery," 145 College Street, Toronto, Canada.**

**Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., must be in our hands by the first of the month previous to publication.**

# Original Contribution

## POST-PARTUM HEMORRHAGE—CAUSES AND TREATMENT*

J. A. Kinnear, M.D., Toronto.

Post-partum hemorrhage means hemorrhage from some portion of the genital tract after delivery, and in its broader sense includes hemorrhage from the cervix, vagina and vulva, as well as the so-called late hemorrhages that occur hours or even days after delivery, but I wish to speak of it in its restricted sense, meaning hemorrhage from the placental site, following delivery immediately or within an hour or two.

My observation has convinced me that most cases of hemorrhage are due to:

1. Prolonged labor;
2. Improper management of the third stage;
3. Improper use of anesthetics, especially chloroform;
4. Improper use of Pituitary Extract;

and these causes are all preventable.

In former years, when women were allowed to linger for hours or even days in the second stage of labor, hemorrhage was a common occurrence. The exhausted uterine muscle could no longer serve as a safeguard against the dreaded accident, and the mind of every practitioner was filled with apprehension. Since we have learned to terminate labor before exhaustion supervenes, serious hemorrhage is far less common.

A very common case of hemorrhage is improper management of the third stage and especially the premature use of Credo's method of expelling the placenta. During the period immediately following delivery nature usually allows the tired

*Read before Section of Obst. and Gyn. Academy of Medicine, Toronto, Nov. 2, 1922.

uterus a period of rest. At this time contractions are not normally present. A moment's reflection is sufficient to show that anything which tends to favor the detachment of the placenta at this time may cause hemorrhage.

During the delivery of the foetus the fundus should be followed down by the hand of the doctor or nurse and the behaviour of the uterus noted. If all is well it will be felt as a hard ball above the symphysis, but well below the umbilicus. If it is so felt, and if there is no hemorrhage from the uterus, further manipulation is better omitted, but the hand should be kept on the fundus and the uterus watched. If there is a tendency to relaxation the uterus should be gently massaged by a rotary movement made with the tips of the fingers over the fundus until it becomes hard again. It is a great mistake, however, needlessly to irritate an already contracted uterus by constantly rubbing and massaging it, and making premature and repeated efforts at expulsion of the placenta. This interferes with the normal separation of the placenta and by hurrying the expression of the placenta before it is separated may cause some placental tissue to be retained in the uterus and hemorrhage.

About five minutes after the birth of a child the uterus gets quite hard; then in a few minutes there is another firm contraction. After three or four such contractions, taking in all about fifteen minutes, you notice the fundus rise above the umbilicus and it is firm, this means that the placenta has been separated from the uterus and is wholly or partly in the vagina, and now it is an easy matter to express the placenta by pressing the uterus downward and backward in the axis of the brim. As long as the uterus remains contracted below the umbilicus the placenta is probably undetached.

We should wait from half an hour to an hour before attempting to express the placenta if it is still undetached. There is a general tendency to hasten the expulsion of the placenta. Not only do premature efforts in this direction cause tetanic spasm of the uterus, but even if successful they disturb the normal mechanism of placental separation, prevent the formation of retro-placental hematoma (which assists placental separation), thus causing hemorrhage and placental retention.

If, after the birth of the child, the patient bleeds from the uterus and the placenta is still in the uterus, the hemorrhage must be from the placental site, and means that a portion of the placenta has become separated while a portion of the placenta is still attached to the uterus. In this case the placenta must be expressed from the uterus as quickly as possible, because a portion of placenta still attached prevents contraction and retraction of the uterine muscles and thus the uterine sinuses are not closed and so in this case the placenta should be expressed by Crede's method. If Crede's method fails and the patient is bleeding the placenta must be removed by the gloved hand.

We cannot wait indefinitely for the expulsion of the placenta. If no progress has been made in from half an hour to an hour, it should be expressed by Crede's method. The physician waits for a contraction, or if one is not forthcoming, he produces one by light massage of the fundus. As the contraction reaches its height the four fingers behind the uterus and the thumb in front make pressure directly downward, i.e., toward the floor while the placenta is at the same time squeezed from the uterus as a cherry pit squeezed from a cherry. Two common mistakes must be avoided. Be sure the uterus is contracting before you try expression. Make the pressure directly downward in the axis of the pelvic brim. The beginner almost invariably makes pressure forward compressing the uterus against the symphysis. This hurts the patient and does no good whatever.

Crede's method is not to be used in every case, but only in case of hemorrhage or when the usual methods have failed, and from half an hour to an hour have elapsed since the birth of the child. It is a measure of necessity, not of choice. Used too early it disturbs the normal mechanism of the third stage of labor and tends to cause, rather than prevent, hemorrhage. In case of hemorrhage or obstinate placental retention, it enables the operator to empty the uterus without introducing the hand, thus greatly lessening the danger of infection.

In cases of adherent placenta, it may be necessary to introduce the hand into the uterus and separate the placenta from the uterine wall. Manual removal of the placenta may also be indicated in cases of hemorrhage, if the placenta is

still in utero and Crede's method is not promptly successful. But it may be taken for granted that the man who reports many cases of adherent placenta, or who often finds it necessary to introduce his hand into the uterus, has yet to learn the management of the third stage of labor.

The placenta and membrane should always be carefully inspected to make sure that nothing has been left behind. Masses of retained placenta require removal. If attached to the uterine wall they prevent involution, keep the sinuses open, thus favoring infection and sometimes causing profuse hemorrhage hours, or even days, after delivery. The retention of pieces of membrane, or even the whole chorion, is of no great importance. At all events it is a lesser evil than the introduction of the hand into the uterus for their removal. Such fragments usually come away in a few days without causing any trouble.

A common cause of hemorrhage nowadays is chloroform anesthesia. For the relief of pain during labor chloroform should not be used during the first stage, as a rule, unless she is a multipara and having a precipitate labor. It should be reserved for the second stage, should be combined with ether, and given only during the pains, and as little as possible.

For an obstetrical operation, as the application of forceps, etc., the administration of the anesthetic should be delayed until the operator is ready to begin, as the anesthetic should be as short as possible. Ether should be preferred where the patient has lost, or is likely to lose, much blood, as in placenta previa. It is preferable to chloroform also in all anemic or exhausted cases, as in pernicious vomiting.

Another common cause of hemorrhage is the improper use of Pituitary Extract. If several injections of Pituitary Extract have been given during the labor, and finally you have to give the patient an anesthetic and deliver with forceps as in the occipito-posterior position, you may expect post-partum hemorrhage. The pituitary causes the uterus to contract strongly and frequently, and in about half an hour it is exhausted. If the child is born before the effect of the pituitary has worn off she probably will not lose as much as usual and the placenta separates quicker than usual, so that pituitary is of service when given towards the end of labor to com-

plete it. It should, however, not be given in the first stage of labor, because the effect of the pituitary is worn off before the child is born and then the uterus is exhausted, and it should not be given when the head is above the brim of the pelvis or in an occipito-posterior position. If you have given pituitary and later had to deliver with forceps, you should give a dose of ergot hypodermically. This offsets to a considerable extent the exhaustion caused by pituitary.

Other rare causes of hemorrhages are uterine fibroids and placenta previa. When the placental site is in the lower uterine segment, as in the placenta previa, there is likely to be more or less post-partum hemorrhage, because this is not the contractile part of the uterus, like the fundus; the uterine sinuses are not closed, and so there is more or less continuous bleeding that is difficult to check.

Somewhat analogous hemorrhage due to the uterine exhaustion of delayed labor is that which follows twin labor, or labor complicated by hydramnion. In these cases the uterine muscle has been weakened by long months of overdistention and by the prolonged first stage so common in these cases.

Finally, I must mention there are a few cases of post-partum hemorrhage for which you cannot ascribe a cause, where they have apparently a normal labor and yet bleed after the birth of each child.

### Treatment.

1. *Prophylactic*—The prophylactic treatment is the most important. Post-partum hemorrhage is usually preventable. In its severe forms it seldom occurs in the practice of careful men. A review of the causes suggests the proper measures of prevention. The patient should not be allowed to linger in labor until she is exhausted. Don't express the placenta until it is separted from the uterus, unless she is bleeding. I feel sure that we are too often in a hurry to get the placenta out and thus get through with the case. Don't give any more anesthetic than necessary. This does not mean that we should forget the humanitarian side of our work and allow our patients to suffer unnecessarily, but that we should not permit familiarity with anesthetics to breed carelessness.

Pituitary Extract is a most valuable remedy when properly used, but a most dangerous one when improperly used. After using much anesthetic, or giving pituitary, if the uterus has been over-distended with hydramnios or twins, ergot should be given hypodermically.

2. *Curative Treatment*—If the placenta is still in utero, get the uterus to contract by massage and express the placenta by Crede's method. If you cannot express it remove it manually. Then, with the closed fist in the uterus, and the other hand massaging the uterus, it will contract down on your hand and bleeding cease.

If bleeding comes on after expressing the placenta, massage the uterus to get it to contract, squeeze out all clots, then get the uterus between your two hands, the right hand passing down behind the pubic bone while the left hand passes down behind the uterus and in this way you compress the walls of the uterus together. With your left hand on the abdominal aorta you make pressure on it, and that lessens the amount of blood passing in the uterine vessels to the uterus, lowering the blood pressure in them, thus favoring clotting in the sinuses.

If you cannot get the uterus between your hands, pass the right hand into the vagina into the anterior fornix and shove up the uterus while, with the left hand behind the uterus, you compress the uterus against the os pubis. By compressing the walls of the uterus together in this way the bleeding placental site is pressed against the opposite uterine wall and thus the bleeding ceases. While you are holding the uterus the nurse should give a hypodermic injection of ergot, such as 1c.c. of Parke Davis' Aseptic Ergot. This injection acts in about five minutes, and until that time you should continue to hold the wall of the uterus together.

If you think the hemorrhage is due to some retained placenta, you should pass the gloved hand into the uterus, remove the clots and piece of retained placenta; then you will find the uterus will contract down on your hand. Close your fist in the uterus and with the other hand on the fundus rub the fundus and the uterus will contract tightly on your hand and the bleeding will cease. Then it is well to give a hot douche of Lysol solution. This will help to keep the uterus contracted

and wash out any germs that might accidentally have been carried into the uterus on the gloved hand. After any intrauterine manipulation it is well to give a Lysol douche, as an extra precaution against septic infection.

If it is a constant oozing of blood, as we get in cases of placenta previa, I think the most satisfactory means to check this is the thorough packing of the uterus with iodoform gauze. It is not necessary to boil up any instruments to do this; simply pass the half hand into the vagina and with the first two fingers you keep on pushing the gauze into the uterus until it is thoroughly packed, while you make downward pressure on the fundus with your other hand.

It is well in all cases of hemorrhage to raise the foot of the bed. This causes a congestion of blood in the brain and upper part of the body, thus lessening faintness that they so often complain about; and it lessens the blood pressure in the pelvis, thus lessening bleeding and favoring clotting.

The first thing to do in a case of post-partum hemorrhage is to get the hemorrhage stopped, and that at once. After the hemorrhage has ceased you are now called upon to treat the acute anemia that follows a severe hemorrhage. The evidence of it is plain: the face is pale, the lips colorless, the skin is bathed in a clammy sweat. The pulse is not very rapid at first, as usually stated; it does not often exceed 100 to 110. It is, however, compressible and may even become for a time imperceptible. The patient is perfectly conscious, but betrays a certain nervous restlessness which is very characteristic. Thirst is a prominent symptom and in bad cases, air hunger. She gasps for breath and asks that the windows be opened. The picture is appalling, especially to the inexperienced. Happily things are not always as bad as they seem. Many patients recover when apparently almost beyond hope. Therefore hope should not be given up while life lasts.

The first thing to do for this acute anemia is to restore the volume of the circulation, thus keeping up the mechanical action of the heart. The quickest and best way to do this is to give up to one quart of normal saline solution intravenously. This, however, is not easily carried out. The veins are colorless and collapsed and it may be difficult to find one. Hypodermoclysis, the injection of the solution under the skin, is

easy, and, although slower than the intravenous, is effective if the case is not too urgent, i.e., if there is time for the solution to become absorbed into the blood. The best site for the injection is the loose cellular tissue under the breasts. Very useful, too, and especially if you have not at hand an intravenous or interstitial apparatus, is the high rectal injection of hot normal saline. The solution is allowed to run slowly into the bowel through the long rectal tube. The mucous membrane sucks this up greedily, and very often not a drop is returned. She should be kept very quiet and with the head low.

Heat externally, in the form of hot blankets, hot water bottles, etc., to the extremities, contributes to recovery and is grateful to the patient.

It is probably better to withhold nourishment for a short time, as these patients have a strong tendency to vomit whatever is taken into the stomach, and vomiting is undesirable at this time, not only weakening the patient, but perhaps causing a renewal of the hemorrhage. Small pieces of ice may be held in the mouth to relieve thirst. As soon, however, as the patient is able to retain it, it is highly important that she take liquids or liquid nourishment in small quantities and at short intervals. Weak tea, coffee, water, broths, gruels are all eligible, quantity being at this time, perhaps, more important than composition.

Morphia, gr. 1/8 hypodermically, is the best drug to use. It seems to relieve the cerebral anemia, which is the cause of many unpleasant symptoms, to quiet the patient's restlessness and make her much more comfortable and to improve the character of the pulse. If the condition is complicated by shock, strychnia, hypodermically 1/30 gr., may be beneficial. On the whole, however, I do not think that for cases of pure hemorrhage it is advisable to whip up the heart by stimulants. The pulse soon regains its volume, but is quick; she slowly regains her strength and is likely to have an elevated temperature for some days.

# Selected Articles

## PAY CLINICS

At a meeting of the New York Academy of Medicine on October 18th last, the subject of pay clinics was discussed.

*Why the Public Needs Pay Clinics.*—M. M. Davis, Jr., Ph.D., spoke on this subject. He stated that his understanding of a pay clinic was a clinic which charged fees covering the cost of service for the patients and a clinic which paid salaries to physicians who did the work. He did not believe that one should go on without the other. The public needed clinics because there was a large number of persons in the community who could afford to pay something for medical care and were not objects of charity, but who could not pay the usual kind of fees. There were three factors to be taken into account in determining whether an individual or a family "could pay:" (1) The income of the man or family; (2) the margin which the family or individual had over the minimum daily needs, such as shelter, clothing, food, etc.; (3) The approximate cost of adequate treatment, depending upon the nature of the illness. This cost varied widely from a small amount in very minor ailments to the high cost of major surgery or the diagnostic procedures that called for expensive investigation. When these three factors were known one was in a position to know whether the patient could pay the usual private rates. Taking up these things separately we had, first, the cost of living. This had been a sore point with all of us. By the cost of living was meant the estimate of the cost of living on the basis of minimum requirements of health and decency. Such estimates had been made by many organizations. Perhaps the most reliable figures were those of the United States Department of Labor and of the New York Bureau of Municipal Research. These were probably as reliable as could be obtained. The minimum health and decency

standard of the New York Bureau for a single man per year was $1,093 and for a single woman $1,118; for a family of five, which was taken as the "average" family, the minimum "health and decency" standard required $2,263 per year. All these figures had been very accurately estimated, and they included a certain allowance for medical care. In the single man's budget of $1,093 an allowance of $32 was made for care of health. In the single woman's budget of $1,118, $43 was allowed for the care of health. In the family of five an allowance of $80 was made for the care of health. These figures were not made by doctors, but by the Federal and local bureau, who took the sums actually paid for health care or considered as practicable for people receiving these incomes. What would $80 do in providing medical care for a family of five? It must be borne in mind that $80 was the amount included in the minimum figures. Anything in excess of $80 must be taken, not from luxuries, but from the necessities of life. Obviously dental care and the allowance for medicines would easily eat up one-half of $80, and often much more, so that $80 could by no means be allowed for physicians' fees. The allowance for health care of a single man was $32 and of a single woman $43. No very expensive treatment could be obtained for that amount. If the services of a specialist were needed the situation would be still more difficult. If the child needed the services of an oculist and the usual office fee of $5 or $10 was paid, and then from $5 to $15 for glasses, $10 to $25 for the examination and glasses, it made a big hole at once in the $80 allowed for medical care. Secondly, Dr. Davis said they had been collecting estimates from physicians, chiefly specialists, for the treatment of more or less typical ailments. These figures it was hardly necessary to read before a medical audience. The cost of the usual fees by a specialist for a baby with rickets during the course of a year's service was $195. At the hands of a pediatrist a child eight years of age with malnutrition for eight months' treatment was charged $55.50, to which must be added a certain amount for medicines. A case of syphilis cost for the first year $225 for treatment; a carbuncle cost $40; a corneal ulcer $49; a glaucoma running six months $157. A case of nephritis during the first period, when the case started with diagnosis and initial treatment, cost something like $100. It was ob-

vious that these figures would be impossible of payment by a family of five with the income above named, or by a single man or woman with an allowance of $32 or $43 per year for health care. The conclusion was that people supporting themselves on earnings of $1,200 to $1,500 a year for single persons and $2,000 to $3,000 for families, had a very small margin to expend for health over and above the necessities of life. The question then arose as to whether these figures applied to large groups in the community. The statistics in regard to income were not as reliable as one would like to have them. There were certain figures of income in New York City, compiled by the National Bureau of Economics, which showed that in normal times, in a population of over 6,000,000, two and one-half million were employed. About fourteen per cent. were estimated to have incomes of $3,000 or over; eighty-six per cent. had less than $3,000. As one went down the scale, sixty-one per cent had incomes less than $2,000, twenty-two and one-half per cent. less than $1,200. Approximately one-half of the two and a half million had incomes less than $1,700. A further analysis of these figures showed that a considerable proportion of those with incomes of $1,200 or less were single men and women or young persons living with their parents. The great bulk of those with incomes of $2,000 to $3,000 were heads of families. Approximately 240,000 families in New York had incomes between $2,000 and $3,000, meaning that there were over a million persons with that scale of income, and that was about the *minimum* scale of income to support the average family in health and decency. If we added an estimate of the number of single individuals with incomes of from $1,050 to $1,650, we might judge that there were about one and a half million persons in New York with incomes which just about extended to the minimum budget estimated as necessary to provide the necessities of life. There was also a large group habitually below this margin of self-support, who were unable to pay anything for medical care. These constituted those who filled most of the free beds in hospitals and the free clinics. Over one million people were now annually receiving care in charitable clinics in New York City, and that corresponded with the figures quoted. There were, however, quite a number who were attending the charitable clinics

yet who were willing and able to pay a small fee. In the studies made by the Public Health Committee of the Academy of Medicine it was found that three-fourths of all who went to the dispensaries went for care by specialists. The group of one and a half million were not able to afford specialist care at the rates usually charged by specialists and consultants. This large group fell between those who could pay the rates of the expensive specialist and those who were legitimate attendants at the free dispensary. Obviously it was impossible to generalize as to the fee for medical care, but there were one and a half million people who fell between the charity class and the well-to-do. Since the city, together with the immediate suburbs, had a population of 8,000,000, probably 2,000,000 of these fell between the well-to-do and the charity group. This 2,000,000 might be called the "pay clinic class." The pay clinic was not a new thing. It had been established on a small scale in New York; in Boston, Cleveland and Chicago on a larger scale. It had been successful enough to prove that it met a definite need, but relatively little such work had been done in comparison with the large amount needed. Such a clinic ought to be a substantial help to the medical profession, for through it the family physician could get the help of better diagnosis. The pay clinic also brought to physicians a considerable sum of money which now did not go to the medical profession at all. Many patients now either paid nothing, because the charitable clinics charged nothing, or received no treatment because they did not wish to accept charity. If these persons paid a fee within their means a considerable amount of money would go to the medical profession. Approximately one-half the expenditures of the Boston Dispensary Pay Clinics were for salaries to physicians. Now the amount which the patients of those clinics paid for treatment, plus medicines, etc., at cost, just about equalled the cost of the medicines or appliances alone at commercial rates. If pay clinics were general, instead of all the patient could afford being paid to commercial enterprises, a considerable part of it would be turned over to physicians. But, of course, the essential result of the pay clinic was not financial benefit to the profession, desirable as that was, but larger service to the public. With the age-long tradition of the medical profession, service to the public had always ranked first.

*Pay Clinics for Venereal Disease.*—Dr. Alec N. Thomson read this paper, in which he stated that the pay clinic was established for the accommodation of those venereal-disease patients who were too poor to afford treatment by a well-qualified practitioner, and yet were economically above those who were admitted to dispensary service. At present, even though they were entitled to dispensary service, they did not want to avail themselves of what they termed "mere charity." The theory upon which the pay clinic was based was better specialized medical service within the reach of the average individual. The need for low cost and high grade service was especial in the case of the venereal diseases. With proper personnel, ethical publicity, social viewpoint, public-health ideas, and modern professional procedure, a clinic could be maintained to treat those individuals who could receive treatment in neither the dispensary clinic nor from the private specialist. The pay clinic was by no means a competitor of the private physician. Not over two per cent. of the patients could afford private treatment. Private treatment cost from $300 to $400 per year, whereas the pay clinic affords equivalent treatment for $100 to $125. This rate, which, on the one hand, was a considerable saving for the patient, on the other hand afforded the physician a reasonable compensation for his services. He got for his clinical work, $5 an hour, working six hours a day, six and one-half days a week. This amounted to $10,000 full time schedule, a net income greater than the average medical man's grand total with uncollectible bills included. He could afford to devote some hours a week upon a purely selfish basis. From the inception of the pay clinic, it had developed along various lines in various places. Some had been affiliated with hospitals or dispensaries, such as the Boston and Brooklyn dispensaries. Others were separate entirely. It was the latter type which was growing more popular. Group medicine frequently resolved itself, in the final analysis, into the private pay clinic. Hitherto nothing better had been offered. It could administer salvarsan for $5 and compensate the administrator. This could not be accomplished by the private physician. The business principle of reducing cost as the volume of production increased applied, with certain modifications, to medical practice.

Dr. Thomas Kirby Davis said he had had the experience of working in a neurological clinic which was a pay clinic. There were two things that might be considered as disagreeable factors. One was that there was a certain amount of abuse of the privilege, but a small amount, and another that inasmuch as it was a neurological clinic, there were neurotic and functional cases which were rather difficult to deal with. In connection with the treatment there was a busy and well handled therapeutic department and there was a certain abuse of that aspect of the work, as many cases not needing hospital attention found that they could get this desirable treatment and cluttered up the clinic, but this was perhaps not altogether an objection, because it did give them some benefit.

Dr. Maurice Fishberg said he was very glad to have heard this discussion on pay clinics and had learned a great deal from the three papers presented. Group diagnosis was like writing poetry by a group of would-be poets. Three or four of such could not produce a work as good as a poem by, say, Byron. A brilliant diagnosis was not usually made by a group; in the last analysis it must be made by an individual. Our great institutions were not made famous by groups, but by individuals who were leaders. After hearing the details of the Boston Dispensary, Dr. Fishberg said he was surprised that only fifty per cent. of the patients were referred by city practitioners and he wondered how many kept on sending cases. The statistics given by the first speaker about the cost of living showed that a single man should allow $32 for health care and a family of five $80. Medical men would be happy to undertake at $30 a year to supply medical care, and would find it a very good proposition. Fraternal orders had been supplied with medical care for $3, $5 and $6 per family per year. If this $30 to $80 would really go into the pockets of the profession it could be done on a wholesale scale, and enrich the profession. They had been told by one of the speakers that the doctors in the pay clinics were being paid at the rate of $10,000 a year, which he said, was new to him. Work in the pay clinic probably covered three hours a week at $5 an hour. The physicians in the pay clinics were not working six or eight hours a day at five dollars an hour. Dr. Fishberg said he would like to know of a doctor in a pay clinic getting

$10,000 a year. He pointed out that one of the speakers agreed that they were paid by prestige and experience, but the money remained with the social workers. He knew whereof he spoke, because he had worked with the social workers. Of late they thought the medical fees were going up and had the idea that the doctors were getting too much, and when they made up statistics they put down, that inasmuch as doctors were paid at $5 an hour it is clear that they were getting $10,000 a year. He suspected, however, that the doctor was working in a pay clinic only a few hours a week, at the rate of $5 an hour. Group diagnosis at its best could be seen in the Life Extension Institute. They were advertising widely in newspapers and magazines, which would not be ethical for a group of physicians, and which they would not want to do. He had seen some very monstrous diagnoses made by the Life Extension. As soon as there was a group there was likely to be advertising, as witness the Chicago clinic which advertised in the daily papers. The publicity agent who does the advertising for them was usually one who had failed to do the publicity work for industrial enterprise, because there the department inquired at the end of the year how much increase in business the publicity manager had to show. As a matter of fact there was no need for pay clinics. Everywhere doctors were treating patients unable to pay their fees for one-fifth to one-tenth of their regular fees and on down to nothing, and the patient got proper attention such as he could not get in the pay clinic. However, the pay clinic might be of some use educationally.

Dr. Stafford McLean stated that they had started one of these pay clinics about a year ago at the Babies' Hospital. For many years patients had been refused there because their husbands were earning more than the law allowed to the person seeking admission to a charitable clinic. These people were willing to pay and wanted to receive the type of examination and treatment that the clinic at the Babies' Hospital could give them. They had made an arrangement to meet this special need. They charged patients $3 for the first visit and $1 for subsequent visits. An additional dollar was charged when a Wasserman test, a blood count, or a uranalysis was necessary. The idea of the three dollars for the first visit

was because many came solely for an opinion, perhaps to check up their own doctor, or perhaps for advice they could not get in their own locality. For those cases that came only once they charged more than for patients who came frequently, such as feeding cases and lentic cases. The conditions in the pay clinic were no different than those in the free clinic, except there was less congestion in the former and the patients were not forced to wait for long periods. There was the same objective in both clinics, but in the free clinic one travelled in the day coach while in the pay clinic one travelled in the parlor car.

Dr. Ward C. Crampton expressed the opinion that the pay clinic simply pointed the way in which medicine was moving. The pay clinic was a phase of medical progress, whether one liked it or not. The pay clinic was a movement in the direction of pay relative to the service rendered and the ability to pay. A feature that had particularly interested him in Dr. Spooner's paper was the prominence that was given in the Boston clinic to the habits of the individual. Physicians were primarily, fortunately or unfortunately, pathologists, concerning themselves with disease rather than health. It was natural that this should be so, since disease was an emergency, dramatic, important, and immediate. But there was a field where the charlatan had crept in and this was the field in which the Life Extension was working, whether we liked it or not, and this was the field of construction. It was for the medical profession to enter this field and develop it as a part of the medical profession. They should not permit the masseur, the osteopath, the chiropractor, the bonesetter, and the milk curist to foist their methods for the extension of life upon the public rather than those of the physician who had the knowledge to properly develop this field. The Boston Clinic had shown in a definite, conservative, formative way that the physician could enter this field and work as effectively as in the field of pathology.

Dr. Louis Faugères Bishop said he was interested in this question of pay clinics. Three or four years ago by force of circumstances he found himself president of a dispensary that was treating 6,000 patients a year and trying to collect ten cents from each patient. This was the Good Samaritan

Dispensary at Essex and Broome streets. At this time the institution was running behind in its expenses, had had no improvements for a number of years and was in a distressing situation. He conceived the idea of converting this old institution into a pay clinic. The Board of Managers thought it could not be done. They said the people in this locality would not pay, that the dispensary had been running too many years in the old way and that nothing could be done. He took a man out of a drug store near the hospital, put him in charge of the clinic, and got his co-operation, explaining to him that his idea was to have these people pay as much as they could. The admission fee was raised from ten to twenty-five cents. A fee of five dollars was charged for a tonsillectomy, etc. At the end of the first year they had collected $3,000 more than their expenses, but they had not made many improvements. He went before the Board of Managers, showed that they had this balance in their favor and that everybody liked the new plan better than the old one. The second year they showed a balance of $6,000 in favor of the dispensary. They established a model heart clinic, with electrocardiograph and X-ray apparatus, and charged $37.50 for complete examination and observation for a period of one month. This was done as a social experiment. When people came with heart conditions the complete diagnostic work was explained to them and they were told that if they did not care for it they could be treated in the dispensary in the old way. It was surprising the number of people who were willing to pay the cost for good service. This year the Board of Trustees were so elated with the evidence that the institution was self-supporting that they had voted $26,000 for improvements, and the whole institution had been practically rebuilt and renovated. His idea was that the physicians in a pay clinic should be paid according to their ability and that we should do away with the idea of paying them indirectly by experience, prestige, etc. The question of pay clinics was a part of the evolution of medicine and we could not get away from it. Public service was the only excuse for the existence of any philanthropy. He believed in raising the standard of practice and teaching the people the value of good medical service, even when they were getting it at cost. No one was

refused treatment because he had no money, but every medical philanthropy should teach the value of medical service. If every medical philanthropy in New York would hand to every patient a receipted bill showing the actual cost of the service rendered to him, it would be an admirable educational movement for raising the respect of the public for medical service, assisting physicians to collect their proper fees, and in making people appreciate the service they received.

Dr. M. M. Davis, in closing the discussion, said he realized that anyone who was rash enough to quote figures of income laid himself open to criticism. He could recall the statement that there were three kinds of liars and that of these the statisticians were credited with being in the lowest grade. However, he believed the figures quoted were not based upon imagination, but upon careful work, and were as accurate as it had been possible to make them. It was quite true that if one took 10,000 people who had $30 each to spend on medical care and organized them into an insurance group one could probably build up an excellent scheme of health care, but he would not care to undertake to do it because he believed it could not be done at the present time. Under such a scheme, two things would be found, first the sickly people would come in first so that there would not be a fair average of healthy and sick persons. In the second place, objection would be raised to it as a form of contract practice, which is generally regarded as a subversion of the current ideals of the medical profession. At the present time the pay clinic seemed to offer the best solution, though some time there might be a genius who would work out a system of taking this excess of $20 or $30 and building up a great system of group health insurance. But the pay clinic would be easier to get under way and would serve both the public and the medical profession.

Dr. Thomson asserted that syphilis clinics were to-day handling cases of tertiary syphilis that not only were not recognized, but when recognized were not properly treated in the dispensaries. Dr. Fishberg evidently had not understood what he had said about the remuneration in the clinic. He said there was at the present time one full-time worker who was receiving approximately $10,000. In the Brooklyn dis-

pensary the doctors were averaging $30 and $40 a week for a few hours' work. That was more than most doctors in New York were making net. Many specialists neglected to make examinations in other lines than their own. For example, in the tuberculosis clinics the examining physician frequently did not even ask the patient whether he had had syphilis, yet it was known that syphilis was fifteen to twenty-five per cent. prevalent in tuberculous individuals. Then there was the question of letting the patient understand what he should expect for the money invested. In one clinic dealing with venereal disease, a cash register had been installed and on the back of every receipt given to the patient was printed "Do not fail to come when the doctor tells you to return," and the doctor wrote on the case receipt the date of return.

Dr. Spooner, in closing the discussion, expressed the opinion that the objections used against group diagnosis were inadequate. There was no reason for assuming that the group was made up of inferior specialists. As to the fact that fifty per cent. of the patients were referred to the clinic by physicians, he had regarded it as a compliment to have outside physicians send their patients for diagnosis. He did not feel that the scope of the clinic was anything against its efficiency, and the fact that fifty per cent. of the clientele came from beyond the city limits was a healthy sign. The Life Extension Institute was quite a different affair. He felt that there were certain disadvantages to the Life Extension Institute. The examinations throughout the country were conducted by one man, who was probably a perfectly reliable physician, but by no means always an experienced practitioner. The reports of all examiners went to a central office and the diagnosis was made from this evidence. If the individual in question was overweight, he was sent a little book on obesity; if he was a little below weight he was sent a book on malnutrition; if his blood pressure was slightly elevated he received a book on hypertension. Diagnosis under these conditions lacked the common sense of the individual who saw the patient and sized up the whole situation first hand. In the Boston Clinic the final diagnosis was made by an internist whose judgment was not overbalanced by having his attention fixed on one field. He was not guided entirely by the finding of a diviated septum

or hypertrophied tonsils, though it was important to have a record of these defects. Dr. Spooner said he was glad someone was impressed by the emphasis placed on habits and general hygiene; that had been a strong point with him and he was glad to have it appreciated.—*New York Medical Record.*

## FACTORS OF LONGEVITY IN THE SEMI-TROPICS*

G. M. Randall, M.D., Daytona, Fla.,

*Major, U. S. Army, M. C. (Retired).*

It is the pre-eminent function of the medical profession to prolong human life and to make it as efficient as possible, and it is our belief that the area of the earth's surface known as the semi-tropics presents the greatest possibilities for human development and maintenance of human efficiency.

It is suitable to allude briefly to some of the factors brought into operation in the past quarter of a century, which have increased man's expectancy of life in all zones. Diphtheria has been shorn of its terrors by the use of antitoxin, typhoid fever is now well understood and is as preventable as delirium tremens. In 1898 we had an army of 107,000 men. Typhoid fever was the cause of eighty-six per cent. of the deaths in that army. Typhoid fever was a worse enemy than Spain. If we had had the same death-rate from typhoid fever in 1917 that we did in 1898 we would have had 144,568 cases, ten per cent. of the patients would have died, or in round numbers fourteen thousand and five hundred men. On the Mexican border in 1916, we had twenty thousand men and two died of typhoid fever. In 1918, in Chickamauga Park, we had three hundred thousand; two had typhoid fever, and both recovered.

When we took over the Panama Zone in 1897 the death-rate there was 138 to the thousand a year. At the same time the death-rate in Portland, Maine, which was at that time the city of lowest death-rate in the United States, was 15.7 to the thousand a year. As a result of the sanitary work of

*Read at the annual meeting of the Florida State Medical Society, held in Havana, Cuba, June, 1922.

the Medical Department of the United States Army, the death-rate in the Panama Zone to-day is 12.6 to the thousand a year, which is less than the death-rate of St. Petersburg, Florida, the most healthful city in the United States to-day.

Twenty-five years ago for any considerable number of people to move from the north temperate zone to the semi-tropics was relatively a greater hazard than for an army division to go "over the top" in France. The sanitary conquest of the tropics and semi-tropics, as accomplished by the Medical Department of the Army, is one of the greatest accomplishments of civilization. Proof that malaria could only be caused or transmitted by the anophele mosquito, and yellow fever only and always by the stegomyia mosquito, was the nucleus of knowledge which built the Panama Canal, and has caused this zone now to be the healthiest zone under the American flag. Other factors operative there are obedience to laws of health.

We allude to these incidents merely to illustrate what we may now state, without fear of being accused of boast or conceit, that the medical profession does prolong life and make it more efficient, as we stated in the beginning was our function.

Factors of longevity in the semi-tropics is a suitable subject for study by the medical men of semi-tropical Florida, that we may the better educate the laity, which is as a rule about a quarter of a century behind the specifically educated profession. Whether Florida or Isle of Pines is a better place in which to grow grapefruit does not concern us. Whether the state capital is located in Pensacola or Key West is not our business. A radio broadcasting station in the centre of the state might accomplish as much as a legislative assembly, so far as we know.

### Limits of Semi-Tropical Zone.

What are the limits of the zone that we are to accept as semi-tropics? The tropic of Cancer is 23° 28′ north of the equator. The tropic of Capricorn is 23° 28′ south of the equator, and between these arbitrary lines is the zone that we know as the tropics. The semi-tropics are not as clearly defined. We speak of the torrid zone, the frigid zone, the north temper-

ate zone and the south temperate zone and the semi-tropical zone. Florida lies between the twenty-fifth and thirty-first parallels of latitude. The Arctic Circle is at the sixty-seventh parallel of north latitude, approximately. The semi-tropical belt, we believe, may be properly considered to be north from the tropic of Cancer to the southern limit of snow, and south from the tropic of Capricorn to the northern limit of snow, this of course at sea level.

Meteorological or climatic conditions vary from astronomical climate within any zone or parellels of latitude according to many influences, such as altitude, nearness to the sea, character of the soil, direction of prevailing winds and possibly other factors. What then is the constant factor of climate universally operative in every zone?

Obviously it is the sun's rays, the percentage of uninterrupted sunlight, and the angle at which these rays reach the surface of the earth. Or, to put it in one word, actinism. Within the zone which we have designated as semi-tropical, we have Spain, Portugal, southern Italy and all bordering on the Mediterranean Sea, northern Arabia, Persia, northern India, the central zone of China, Japan, northern Mexico, all of Florida, and in the south semi-tropics we have the northern part of Chile and the Argentine Republic and South Africa and the southern half of Australia.

Thus it is seen that to speak of all the factors of longevity in all of the semi-tropical zones of the earth would in reality take in nearly all meteorological conditions encountered in the habitation of man. It will therefore be of more practical utility for us to consider conditions as we find them in our own semi-tropical Florida and other sea-level and peninsular countries.

We have had the suggestion implanted within us in our Sunday-school catechism that anything beyond three score years and ten was to be accounted to strength, and the inference is that it would be unusual strength. We would in no way wish to be considered as criticizing Holy Writ. But let us consider for a minute a sort of empirical biological law, or perhaps rule would be better. It is this: The age in years required by any warm-blooded animal to attain complete physical development, multiplied by five, will give that animal's

expectancy of life, as near as any other mathematical rule. A horse is mature at five years and we expect him to live about twenty-five years. A cat matures at three years and will live to be about fifteen years. An elephant is not mature until he is thirty-five, and will live under normal conditions two hundred years. Hibernating animals as a rule live longer than non-hibernating animals, and it is interesting to note that they all mature comparatively late in life, and incidentally it will be noted that most hibernating animals have relatively a high degree of intelligence. The black bear and beaver are good examples of this. Man matures at eighteen and should live to ninety years. If a normal, well-born child does not live ninety years it is due either to ignorance of physiological laws or to an accident, for without doubt the normal human machine was wound up to run at least that number of years.

Methuselah lived, if we are correctly informed, to be 969 years. We are inclined to question the accuracy of this statement and to believe that a family name was mixed up with an individual. This same applies to Shem, who is said to have lived to be six hundred years old. There is little doubt that Abraham lived to be 175 years, Isaac to be 180 years, Jacob to be 147 years and Joseph to be 119 years. Early vital statistics in Italy give the time of death of 147 people who lived above one hundred years, namely, fifteen died at 110, twenty at 125, forty at 130, forty-two at 136 and thirty at 140. Among ancient philosophers we note the ages of Hippocrates to be 101, Isocrates ninety-eight, Zeno ninety-eight, Diogenes ninety, Sophocles ninety. In studying the lives of 1,280 men who have lived upwards of one hundred years, from Methuselah to the present, we observe that with but sixty-five exceptions all have lived in the semi-tropical zone, and incidentally it is interesting to note that they were, with few exceptions, lactovegetarians.

The original use of the word climate meant the incline of the sun's rays to the earth, and consequently was of purely astronomical definition, but with the invention of the thermometer, barometer, hygrometer, actinometer, and other instruments of precise measurement of meteorological conditions and phenomena, the word climate has come to mean the

sum total of all atmospheric and telluric conditions which obtain at any given place. Isothermal lines may take us thirty to forty degrees north or south of any parallel of latitude. The flora and fauna of any locality depend more upon the average annual temperature, which may be caused by ocean currents, proximity of mountains, wind or soil, than it does *per se* upon latitude.

## Actinism.

In the study of actinism we are concerned in the study of a force the relative importance of which is hard to comprehend or define. If we were to say it is a force as important as gravity, or magnetism, or heat, we might provoke argument. It is a powerful force and one little considered. It is the force of the sun's rays which causes the seed to germinate; it is the force which penetrates the soil and liberates chemical elements and makes them available as plant fertilizers. Without actinism the sands of Florida would be a barren waste.

The actinic rays of the sun are those rays which produce the chemical changes on the photographer's plate or film. These rays differ from the heat rays of the sun and are not produced by any electrical device. Actinism does not result from luminosity, and may take place with much diminished luminosity. This is demonstrated by the use of certain ray filters. A ray or color filter of violet, indigo or blue will not intercept the actinic rays, but a filter of red, orange or yellow, and to a faint degree green, will intercept actinic rays more or less completely, according to the density of the screen. The effects of actinism on wines has been understood, although it has not been named for several generations in France and Italy. Actinism destroys the bouquet of wines if they are put in white or blue tinted bottles. Red wines preserve their own bouquet, because of their color, better than white wines. Actinism promotes oxidation and changes the molecular arrangement of the atom.

Actinism is more powerfully operative in the semi-tropics than in parallels of latitude more remote from the equator. It might seem on superficial consideration that, inasmuch as the sun is 92,897,000 miles from the earth, forty or fifty miles

more or less would not be a factor influencing natural actinism, but let us see; suppose the angle of incidence of the sun's rays is 45° in the vicinity of New York or Chicago. It is quite obvious that they strike the earth at a lesser angle at the tropics and semi-tropics. In other words, the sun's rays, actinic and other, pass through several hundred miles more of the earth's atmosphere as we get farther and farther from the equator. The earth's atmosphere is to a certain degree a ray filter and the more foreign matter contained in the air and the more of the air the rays have to pass through, the more the actinic rays will be filtered out. In this connection it is well to note atmospheric conditions which obtain in insular and peninsular countries, such as Italy, Spain, Portugal, Central America, Lower California and Florida. There is less dust, smoke and other foreign matter in these regions. Florida is a unique peninsula in that it is flat and has no mountain ranges to cool and make sudden variations in temperature or humidity. Its almost insular location insures an atmosphere almost free from contamination. Actinism explains why we can grow pineapples and orchids on what would seem to many people absolutely unproductive soil. Actinism is inimical to lower forms of life, and the line of demarkation between animal and vegetable is hard to determine. Vegetable moulds and bacteria are killed by sunlight. There are very few pathogenic bacteria that will grow in any medium when exposed to sunlight. This fact and the large percentage of sunlight days explains why there is a happy absence of epidemic diseases in Florida.

The effects of the actinic rays of the sun on human beings is interesting and important. The effect is physiological, pathological, therapeutic, according to the manner and object of their application. Long exposure to uninterrupted sun's rays of the sun, as is often done for the purpose of tanning in the blood. This may be of advantage in certain conditions of plethora and high tension, but applied to excess or to the wrong person may do harm. It is a remedial measure that should be handled intelligently, like any other potent therapeutic measure. It is an error for a person from the north temperate zone to expose large areas of the body to direct rays of the sun, as is often done for the purpose of tanning

or pigmenting the skin, that some deluded laymen consider so beneficial. Because a little is good it does not follow that a good deal is better. Plethora and high tension may be benefited most decidedly by heliotherapy in conjunction with suitable dietary. An extensive sunburn is always accompanied by leucocytosis and a certain degree of hemolysis. This accounts for the feeling of lassitude and apathy that follows exposure to the direct sun's rays. Patients often wonder why they are fatigued after sitting in the sun, when they have taken no exercise. It is increased metabolism without voluntary effort. Actinis rays penetrate tissues deeply, regardless of luminosity. The negro race is protected from these results by the pigmentation of the skin, which acts as a ray filter. The deposition of pigment in the white man's skin is nature's effort to compensate for the increased actinism which he has suddenly been obliged to experience. The different races of men have developed and evolved out of three hundred thousand years. Climate and consequent diet has made these races what they are, and the white Nordic cannot change his physiological economy to that of the negroid type in one season in the semi-tropics.

Rheumatic and gouty arthritis receive wonderful benefit from heliotherapeutic measures. There is a wonderful field in Florida for the establishment of solariums, heliotherapeutic institutions and sanatoriums having as essential departments, sun-cure wards and sun-parlors. No section of the United States is so well located for this purpose. Many skin diseases are quickly cured by no measures except the direct rays of the sun. Many skin diseases of bacterial and parasitic origin, also of nutritional and uric acid origin, are immediately and permanently cured by this means alone. Most forms of neuritis are speedily relieved and presently cured by direct sunlight. Many cases that are treated by X-rays and violet rays are better treated by the sun's rays. A one hour sunbath out on the back porch may not get the specialist a fee, but it will get the patient with arthritis more than he would get for a fee.

There is no escaping the fact that Florida is an asylum for fifty per cent. of the winter residents that come to the state every season. It would be of commercial value to every

hotel in Florida to have a sun-parlor, a sun porch and sun rooms, and little individual wind-protected and sun-exposed nooks and corners where certain of their guests could sit and get the benefit of the out-of-door air and sunlight, as can be done in no other state in the Union in January, February and March. Hotel men do not like to have their hotels considered sanatoriums, but to a certain degree it cannot be helped. Nothing will be accomplished by hotel men making it inconvenient for a man or woman with sciatic neuritis, or circumflex neuritis, or arteriosclerosis, or arthritis, or many of the diseases and disturbances which people do not want to go to hospitals for, to come to his hotel, and the sooner the hotels recognize this little bit of business the sooner will they be considered progressive. If people did not get physical benefit from coming to the semi-tropics they would not come in increasing numbers each year. A man may come ostensibly to fish or to play golf, but we have found that about ninety per cent. come to improve and perpetuate health and efficiency. The factor that improves it is sunshine. To digress and speak commercially: it is almost ludicrous to observe the policy of some otherwise nice cities in their fear that invalids will be seen on the streets, and thus frighten away people who come just to have a good time and spend their money in riotous living. Some cities, on the other hand (one of which is the most rapidly growing city in the United States to-day), are awake to their advantage and so build their sidewalks that wheel chairs may with comfort to the occupant be wheeled across crossings from one street to another without jolt or violent effort. This little concrete incline is an invitation and a hand of welcome.

### Geographical Distribution of Bacterial Disease.

Certain diseases of bacterial origin have quite a definite geographical distribution, dependent upon meteorological or climatic conditions. Probably twenty per cent. of all deaths north of the 30th parallel of latitude are due to diseases of bacterial origin, which gain entrance into the human economy through the bronchopulmonary mucous membrane, and are almost inescapable. The mortality from whooping cough, measles and scarlet fever, which are considered almost an essential part of a child's career in the north temperate zone,

would be appalling if diseases of like mortality were encountered in the semi-tropics, with equal virulence and mortality. Mucous membranes are made susceptible of bacterial infections by the sudden and wide changes in temperature of the respired air, and as a result in the north we have catarrhal diseases that are never encountered in people whose homes are in the semi-tropics. A case in point is infantile paralysis. This disease, which is never epidemic in the semi-tropics, gains entrance to the human economy through the nasopharyngeal mucous membrane. Every epidemic of infantile paralysis in the north has followed a cold, wet season. Low temperatures lessen vital resistance and favor the development of pathogenic organisms which have a selective affinity for those structures.

According to reports of the United States Public Health Service forty-eight per cent. of deaths of persons over sixty years old, north of the fortieth parallel in the United States, are from pneumonia, and twenty-six per cent. of all deaths of all ages in this zone are from communicable bronchopulmonary and respiratory diseases, and south of this parallel this percentage diminishes as we go south, until in the semi-tropical belt pneumonia is accountable for a little over five per cent. of deaths of people over sixty, and bronchopulmonary diseases are correspondingly lessened.

Another factor which many lose sight of until it is too late: the normal temperature of a human being is about 98.2°, and every degree of temperature of the surrounding medium below this requires oxidation to maintain life. If the human body is surrounded by a medium the temperature of which is twenty, thirty, or forty degrees below normal body temperature, metabolism must proceed at a rate adequate to maintain the body at its normal, else death will result. The weary traveller who sits down to rest and refresh himself in the "white north" freezes to death, but in the tropics and semi-tropics you cannot freeze and you cannot starve. The person prematurely aged by those sudden revolutions in the internal economy, engendered by low temperature and violent changes, rapid oxidation and metabolism, whose eliminative organs are crippled and whose arteries are hardened and whose blood pressure is high, can come to the semi-tropics and be sure

that his oxidation will be less, his metabolism will be less, his elimination will increase and his symptomatic blood pressure will approach normalcy. Residence in the semi-tropics permits a diet of lessened caloric value. Body heat is more easily maintained in an atmosphere which is 75° than in an atmosphere at a temperature of zero or below.

### Food a Factor in Longevity.

The shortest lived race of people on the earth are the Eskimos, and the longest lived are the Japanese. The explanation of this is purely climatic. Diet is essentially involved and controlled by climate. Eskimos subsist entirely on animal food. Japanese use comparatively little animal food. The principal article of food of the Arabian is dates, and they live to a very old age. Statistics are wanting, but the long life of the Arabian is well known. Arabia, however, can hardly be considered as semi-tropical climate inasmuch as the temperature and humidity of the air are so much influenced by the south-west winds of the Desert of Sahara. Food then comes to be a factor of longevity naturally consequent upon climate. That is to say, one must eat to live and his requirements are twenty-five per cent. less in the semi-tropics than in the northern part of the north temperate zone.

It has been tersely said that "Man is as old as his kidneys," and his kidneys are certainly as old as his arteries. Conservation of the kidneys by cutaneous elimination is a conspicuous phenomenon in all warm climates.

Last and by no means least of factors of longevity in the semi-tropics is the individual mental condition engendered by residence in a friendly atmosphere, so different from that described and implied in Service's *Spell of the Yukon*. There is less hectic struggle for life where the average man does not have to spend five per cent. of his time and income for wood, coal, wool and fur, lest he die from lack of them. —*New York Medical Journal.*

# The Canadian Journal of Medicine and Surgery

A Journal published monthly in the interests of Medicine and Surgery

VOL. 53 TORONTO, MARCH, 1923 No. 3

## Editorial

### The University of Toronto

The Parliamentary Committee on the University of Toronto has furnished interesting reading to the medical profession. The investigation had its origin in the differences of opinion in the Faculty of Medicine—other matters turn out to be mere side issues. The opposing parties seek to make the Committee believe that the differences are chiefly as to the methods of instruction and appointment.

Dismissing such petty motives as thwarted ambitions, outraged vanity, flair for intrigue and desire to be in the limelight, one must seek an origin deeper seated, and of longer duration.

Beyond controversy, there has been built up in the University a Faculty of Medicine ranking with the best in the world, in spite of, or, it may be, as a

result of the differences laid bare to the public. Unfortunately, the quiet, solid and enduring work of the Faculty is, in the public mind, quite overshadowed by the quarrels so freely and publicly waged.

The Faculty of Medicine has been built up and its life made possible, not by the University, but by the self-sacrifice of its members during many long years. These men have lent lustre to the University, not the University to them.

The real source of the trouble is to be found in the penuriousness of the Province of Ontario and of the University, the lack of back bone and self respect in the members of the Faculty, and the want of consideration and courtesy on the part of the University to its medical teachers, and of the teachers to one another.

An erroneous impression was given the Committee and the public, by the statement of one of the Board of Governors that professors were paid from $3,000 to $5,000 per annum. Until a private gift endowed the Chair in medicine, no teacher on the clinical side ever received more than $1,100, the most of them anywhere from $50 to $750. For years there have been many, to-day there are still teachers on the clinical side of the Faculty paid less than fifty cents an hour: the pay of a street laborer.

The Province of Ontario, the University of Toronto and the members of the Faculty alike, have reason to be ashamed of such a state of affairs.

Members of the Faculty ruthlessly cast to one side by the mill of reorganization, after ten to twenty years of sacrifice, hard work, and loyal service—all to the glory and aggrandisement of the University—without one word of thanks on the part of the Faculty or of the University Governors, may be forgiven if they air their grievance in public. Yet, after all, what did their knowledge of the University and of the past lead them to expect?

A little consideration and courtesy on the part of the *knightly* Governors and University authorities might have prevented this unseemly squabble.

The Faculty of Medicine originated with the younger men of the old Toronto School of Medicine who sought, for the student, better teaching in the scientific subjects common to both arts and medicine. They succeeded in establishing, in the face of stout opposition, a Faculty of Medicine in the University. Ardent enthusiasts—most of them since gone—gladly taught for a mere pittance, that the Faculty might be firmly established.

The first reorganization report, brought in by Hon. Edward Blake, then Chancellor of the University, recognized the inadequacy of payment of the teachers. Mr. Blake suggested that they be paid honoraria, and expressed the hope that the finances of the University might, later on, permit proper salaries being paid.

Honoraria they have remained to this day. Have the University authorities ever approached the Province for funds to change this anomaly—a mild word? Have the members of the Faculty ever protested against it?

Later, there arose the suggestion that positions on the hospital side of the Faculty were so valuable that those holding them were amply paid, and should not receive even an honorarium.

This argument has been used by the University to save both face and money. Yet the head in surgery and in medicine is now given ten thousand a year for work little, if any, more arduous than that of others. A discreet silence is now observed as to the value of the position to the incumbents.

The laudable scheme was inaugurated of paying, adequately, a number of full-time young men, so-called teachers in training. The clinicians were to be deprived of their honoraria. A protest being made, it was decided by the heads of departments, of whom all but four were full-time men, that only the heads of departments and full-time men should be paid.

The question naturally arises: if a teacher in training should receive an adequate salary, what should a teacher already trained by years of experience receive? The answer is enlightening. He should not receive anything; the advertising he receives is quite sufficient, for, is it not self-evident that the full-time head, or the full-time teacher in training, does not get any advertising, or, if he does, it is of no value to him? Q.E.D.

Further protest to the Board of Governors led to the honoraria being restored.

This little incident shows the attitude of mind which the whole-time system produces in men admittedly honest and sincere.

There is no quarrel with whole-time men being paid adequately. Pay them and pay them well. At the same time pay properly the part-time men and clinicians.

With the coming of the Eaton and the Rockefeller gifts, Mr. Blake's hope became possible, but it was decided to use the revenue from these for full-time men chiefly in medicine, surgery, and in some of the purely scientific departments. Along with these full-time men were to be a number of so-called clinicians. The clinicians were made up of men trained by years of experience in private practice, teaching and ward work.

The policy of paying teachers inadequately, or even not paying them at all, has had harmful results. A man can show his capacity as a teacher only by having an opportunity to teach. Good teachers are few and far between. Mediocre teachers are many. A faculty with one outstanding and three or four really good teachers may well call itself blessed.

A man is given an opportunity to teach. He turns out to be mediocre or worse, but he has given his time and his services for nothing. The head of his department knows quite well the man is not a success, but teachers must be had. He is at his

wits' end to get any one any better. Why have a scene with, and incur the ill will, for himself and the University, of a man who has done his best—however poor—and that for nothing. The result is, the man is kept on for years until advancement or reorganization comes. Then he is dropped. Naturally, he says: "if I am no good, why did you keep me on all these years, when I might have devoted my energies along other lines?"

The strength of his argument adds to his sense of injustice and resentment. Personal dislike, and professional jealousy—twin angels—pour healing balm on his wounds.

The wrong position in which the teacher, the head of the department, the Faculty, and the University is placed, is apparent, to say nothing of the medical student. The remedy is equally apparent.

The whole-time system is new. Let it have a fair trial. Even the strongest advocates of the system, as modified, do not want it enforced too rigidly, and admit in private that it has faults.

It is not the only solution. Time and experience will make more evident its weak points. Another ten years will show another upheaval and another reorganization. This is the process of progress and its penalty. History repeats itself, in universities as elsewhere.

## Fractions and the Whole

There is a growing feeling that the practice of general medicine has been thrown too much into the background in the vogue for specialties. It is being discovered that the human body cannot be successfully treated in fractions; and that the whole is greater than its parts, holds in this as in other relations in life.

Science does wonderful things in meeting local body disturbances. Dentist, aurist, oculist and all the specialists skilled in local internal troubles, serve as vital auxiliaries to the great whole belonging to the general practitioner. His work it is to utilize this knowledge in the maintenance of general bodily health.

In a recently published volume on "The Future of Medicine," Sir James MacKenzie, the noted heart specialist, remarks on the danger of over-looking general principles in the mass of medical specialties. He asserts that the investigation of the causes and beginnings of disease is the great general need of the present; and that for this purpose the general practitioner, who has the opportunity of studying patients over a long period, does best service.

Since the body is not built on the department store plan, and the organs act and react upon one another, it does appear that a general and watchful supervision over the whole structure is essential.

If the future of medicine lies in preventive work, and we are undoubtedly moving in that direction, then with the general practitioner will rest the responsibility of discovering the beginnings of the disease. Through his long previous knowledge of the patient he will be able to collate the symptoms and ascertain the cause. Possibly by prompt treatment he may prevent a minor malady from becoming a serious one.

Sir James makes another point: he believes that students cannot be adequately trained by laboratory experts and in the class-room alone. Those who intend to become general practitioners should (he thinks) receive instruction from men of wide experience in general work. The interne and externe hospital services serve in a measure to supply the graduate students in this respect. But a large number are necessarily left without this opportunity. And the suggestion arises whether the old-time apprenticeship changed to suit our modern day and generation, might not be revived.

A medical student spending stated hours a week in the office or on rounds with a well-established general practitioner would learn much of general principles in medicine that only years of private individual practice would teach him.

To watch a patient as a whole—as a personality; to detect, and, if possible, arrest, the basic beginnings of disease—that should be the great and essential work of the general practitioner.

## A Wintry Wind

The following letter from the *Boston Transcript* of December last requires little comment. It carries its own message. The signatures attached are of workers so well and widely known in the highest field of philanthropy that the appeal gains tremendously in force thereby:

AGED PHYSICIAN IN NEED

To the Editor of the *Transcript*:

May we call the attention of your benevolent readers to a case of painful need? A learned, humane and aged physician who has practised medicine honorably in and about Boston for many years, finds himself in desperate circumstances on account of the failure of his practice and the death or removal of his old patients. We are personally acquainted with this gentleman and his circumstances and would deeply appreciate contributions from physicians and other kindly-disposed persons, to tide him over his present difficulties.

ELWOOD WORCESTER,
Rector of Emmanuel Church.
SAMUEL MCCOMB,
Professor, Episcopal Theological School.

We reproduce this letter, but not for the purpose of furthering the appeal. Coming from such a source the response in kindly Boston city will be instant and generous. Our purpose is to emphasize the need of business methods and careful looking ahead in professional practice.

The "physician beloved"—as this one evidently has been—is too often the victim of the unscrupulous. It is neither wise or kind to permit deliberate and wilful imposition in the matter of unpaid service on the part of the patients.

## Rheumatoid Arthritis

Dr. Strangeways, of England, has examined at autopsy, 2,500 joints of subjects with "rheumatoid arthritis." He has definitely distinguished seven varieties of the disease, though he thinks many more joint affections are grouped under the term.

The first variety shows thickening of the capsule, bone and cartilage unaffected; the second, an atrophy of all the structures; third, the dry; fourth, showing adhesions extending from the capsule to the cartilage, which disintegrates from the surface inwards; fifth, the infective—from gonorrhea, dysentery and pneumonia; the sixth showing abundant villous outgrowths from the synovial membrane (the least common according to Dr. Strangeways); seventh, the osteo-arthritic, characterized by lipping of the bones and degeneration of the cartilage, probably due to arterio-sclerotic degeneration of the vessels supplying the affected joint.

"Learned, humane," far removed from monetary consideration in his days of active practice—and now "aged." It is not a pleasant picture, and the entire profession responds to the fineness of it.

# The Canadian Journal of Medicine and Surgery

Toronto ——— Canada


## Board of Editors


THE PRINCIPLES OF SURGERY AND SURGICAL PATHOLOGY:

**Irving H. Cameron, M.B., LL.D., F.R.C.S., England; F.R.C.S., Edinburgh; F.R.C.S., Ireland; F.A.C.S.;** Emeritus Professor of Surgery, University of Toronto.

PRACTICE OF SURGERY:

**N. A. Powell, M.D., C.M.,** Emeritus Professor of Medical Jurisprudence, University of Toronto. **Herbert A. Bruce, M.D., F.R.C.S., Eng.,** Associate Professor of Clinical Surgery, University of Toronto.

HOSPITAL ADMINISTRATION:

**J. N. E. Brown, M.D.,** Toronto, former Superintendent Toronto General and the Henry Ford Hospital, Detroit, **A. R. Haywood, M.B., M.R.C.S., L.R.C.P., Eng.,** Medical Superintendent, Montreal General Hospital.

OPHTHALMOLOGY:

**J. M. MacCallum, M.D.,** Chief, Department of Ophthalmology, Toronto General Hospital; **Walter W. Wright, M.B.,** Assistant in Ophthalmology, Toronto General Hospital.

NOSE, THROAT AND EAR:

**Perry G. Goldsmith, C.B.E., M.D.,** Chief, Department Ear, Nose and Throat, Toronto General Hospital; **J. K. Milne Dickie, M.D., F.R.C.S., Edin., Ottawa.**

PEDIATRICS:

**Augusta Stowe Gullen, M.D.,** Toronto; **Alan Canfield, M.D.,** Visiting Physician, Hospital for Sick Children, Toronto; **George Smith, B.A., M.B.,** Associate Physician, Hospital for Sick Children, Toronto. **Helen MacMurchy, M.D.,** Chief, Division of Child Welfare, Department of Health, Ottawa.

MEDICINE:

**J. T. Fotheringham, C.M.G., M.D., LL.D.,** Associate Professor of Clinical Medicine, University of Toronto; **Jabez H. Elliott, M.D., F.A.C.P.,** Past President, Academy of Medicine; **Dr. Julian Loudon, B.A., M.B., M.R.C.S., Eng., L.R.C.P., London, F.A.C.P.,** Physician-in-Chief St. Michael's Hospital, Toronto; **Lewellys F. Barker, M.D.,** Baltimore, Emeritus Professor of Medicine, Johns Hopkins University.

CLINICAL MEDICINE:

**H. B. Anderson, M.D.,** Toronto; **George S. Strathy, M.D., L.R.C.P., M.R.C.S., Eng.,** Clinician, Department of Medicine, University of Toronto; **W. B. Thistle, M.D., L.R.C.P., London,** Associate Professor Clinical Medicine, University of Toronto. **R. T. Noble, M.D.,** Past President, Academy of Medicine, Toronto; **G. W. Ross, M.A., M.B., M.R.C.P., London, Eng.**

MENTAL AND NERVOUS DISEASES:

**N. H. Beemer, M.D.,** Medical Superintendent, Ontario Hospital, Mimico; **Campbell Meyers, M.D., M.R.C.S., L.R.C.P., Eng.**

GYNECOLOGY

**F. W. Marlow, M.D., F.R.C.S., England;** Associate Professor of Gynecology, University of Toronto.

OBSTETRICS:

**J. Gordon Gallie, B.A., M.D.,** Assistant Department of Obstetrics and Gynecology, Toronto General Hospital.

DERMATOLOGY:

**D. King Smith, M.B.,** Clinician, Department of Dermatology, University of Toronto.

ROENTGENOLOGY:

**W. M. Carrick, M.D.,** The Mayo Clinic, Rochester, Minn.

MANAGING EDITOR:

**W. A. Young, M.D., L.R.C.P., Eng., Toronto.**



**Address all communications to "The Canadian Journal of Medicine and Surgery," 145 College Street, Toronto, Canada.**

**Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., must be in our hands by the first of the month previous to publication.**

# Original Contribution

## MODERN EPIDEMIOLOGY*

T. H. Whitelaw, M.D., Medical Officer of Health, Edmonton, Alberta.

Epidemiology defined: The sum of what is known regarding epidemics.

During the last twenty-five years comparatively little change has occurred in the methods of treatment of surgical and medical diseases, as compared with the recent advances which have been made in the bacteriological and epidemiological study of the causes and prevention of communicable disease.

The bacteriologist, the epidemiologist, and the vital statistician, have reached a common basis of agreement, which clearly indicates the desirability of putting aside many traditional fallacies regarding communicable disease which are still firmly fixed in the minds of the laity and to which some members of the medical profession engaged in general practice still yield a tacit obedience. It is with a view, therefore, of encouraging the nursing profession to co-operate with health officials and medical men generally, that I have ventured to respond to the request of your lady superintendent for a lecture on public health, believing as I do, that you as nurses can assist greatly in enabling the public to gain saner views of the real sources of infection in communicable disease.

In accordance with the principles of what is called the New Public Health, which relegates to oblivion or to comparative unimportance, many of the supposed factors in the causation of communicable disease, I shall attempt to place before you some of the fallacious and mischievous ideas naturally held

*Lecture delivered to nurses in training, Royal Alexandra Hospital, Edmonton.

by even the intelligent laity, as a result of the illogical teachings of our medical profession up to very recent years and which not a few medical men still support or at least do not oppose.

In speculating as to the cause of an outbreak of communicable disease in a given family, the attention is often concentrated on the environment of the individual affected, insanitary conditions, real or imaginary, in the neighborhood, etc., to the exclusion of the real causes of infection in some of the human beings with whom that individual has recently been in contact. In other words the source of disease is sought for in inanimate things rather than in man himself. In accordance with this environmental theory of disease, it is not so long since malaria was believed to be due to exhalations from swamps and sloughs: typhoid fever or diphtheria to sewer gas, odors from stagnant water, damp cellars, leaky plumbing, decaying vegetation and garbage or dead animals, and in general, everything of a disagreeable or non-æsthetic nature was supposed to give origin by a process of biogenesis to all the various germs of communicable disease quite independent of the human being, who directly or indirectly is responsible in practically all cases.

The New Public Health finds the real sources of disease in the individual himself and the emanations from his body which find their way by various and devious routes to the healthy or uninfected individual. Examples of such agencies are water, milk, food, flies and fingers, any of which may be the vehicle by which disease germs find their way into the systems of the uninfected. While health authorities should not fail to give considerable attention to the removal of nuisances, proper disposition of garbage and manure, etc., and everything which is an offence to the æsthetic aspirations of the intelligent citizen, they must concentrate their energies largely on the real source of communicable disease, if they would prevent to as great an extent as possible the spread of an epidemic. To this end there should therefore be investigated:

1. The infected individual and the probable source from which the infection was derived.

2. The routes of spread from the infected individual.

3. The routes of spread from ordinary uninfected individuals to their associates.

With the infected individual, precautions should be taken towards preventing him from infecting others by isolation, effective quarantine and the destruction or disinfection of all secretions and discharges. To limit the spread of infection from that individual the necessary attendants or nurse should be fully instructed in ways and means of preventing that infective material from reaching the food or oral passages of others in the same house or in a hospital to which the patient may have been removed. And finally the question of the possibility of infection being carried by some person, not suffering from the disease should be given attention. The importance of fomites as a source of disease conveyance has probably been greatly exaggerated in the past. It is certain that disease germs do not long retain sufficient vitality to be dangerous, when separated from the human body and particularly if exposed to bright light and fresh air. It must be admitted, however, that secretions and excretions if transferred on articles of clothing, etc., while still moist and fresh are capable of transmitting infection. The word carrier as now used has a meaning limited to the individual who harbors the germ of a disease in his tissues without suffering from the disease itself, and who is capable of infecting others. We have positive evidence that there are carriers of diphtheria and typhoid fever. In the case of the latter, the woman called Typhoid Mary, who, being a cook, infected twenty-six persons in six families, where she was employed in this capacity, is the classical example frequently referred to in this connection. Becoming suspected, she was eventually found to be a carrier of so persistent a nature, that she had to be kept in an institution and though on one occasion she attempted to regain her freedom from restraint, the Courts quite properly refused to allow her to resume her old occupation of cooking. While we do not yet know what the germ of scarlet fever is bacteriologically, there is no logical reason why there should not also be carriers of this disease; which may account for some of the cases where we do not appear to be able to locate any definite source of infection.

## Air-Borne Infection Largely a Fallacy.

That the air is one of the chief vehicles in the conveyance of communicable disease was the universal belief a generation ago even among medical men; and the text books on Hygiene, used at that time, religiously taught that doctrine. Perhaps the most difficult problem public-health officials have to confront, is to dislodge from the minds of the public at large, this firmly fixed, but mistaken belief. That air infection was considered of relatively greater importance in surgery than contact infection in the eighties, is indicated by the preparations for an operation in vogue at the time at Bellevue Hospital. Dr. Chapin, of Providence, who has given many years to a study on this subject, relates how a phenol spray was used in the operating room for several hours before the operation, to disinfect the atmosphere. He relates how, during an operation, the surgeon dropped his knife on the floor, picked it up, wiped it on his gown, and proceeded with the operation, and that the incident attracted little notice and caused no comment. We know that air infection of wounds is a negligible quantity. Ochsner says: "Air infection is not impossible, but practically no wound infection is to be considered except from contact." And yet it has been clearly demonstrated that the air of operating rooms does contain pus organisms. The explanation of their non-virulence is probably due to their greatly diminished vitality, due to drying and exposure to light, and to their small number. In any case, they fail to infect the freshly cut tissues of an open wound. This being the case, is it reasonable to believe that the ordinary pathogenic organisms float in the air in such numbers and possessed of sufficient vitality to penetrate the intact mucous surfaces of the respiratory or alimentary tract?

Since the mosquito has been found to be the factor in the case of malaria and yellow fever, previously believed to be air-borne diseases, researches have reduced the list of possible air-borne diseases to a comparatively small number; and in these, too, the air as a medium of infection is, relatively speaking, now known to be unimportant. That measles, small-pox and tuberculosis may be at times air-borne, is still an open question, but many of the leading authorities who have studied extensively along this line, are now convinced that

even in these diseases, air infection is relatively so rare and unimportant as to be negligible. In my experience in Edmonton, with over four hundred cases of smallpox, I have been able to satisfy myself that personal contact with a previous case was present in the great majority of the cases, and in no case have I been able to prove, where either fomites or air infection might appear to have been a possible source, that contact could be absolutely excluded as a factor. In an article on air as a vehicle of infection, in the February number of the *Journal of the American Medical Association*, Dr. Chapin, Superintendent of Health of Providence, deals fully with the subject, and sums up as follows: "There is little evidence that among the diseases which commonly occupy our attention in this part of the world, aerial transmission is a factor of importance. In most, it is under ordinary conditions of home and hospital, a negligible factor. For tuberculosis alone, is there evidence that air-borne infection is a factor of moment, but the last word has not been said as to the etiology of this disease. We may be sure that the sewer-gas bogey is laid, the notion that dust is a dangerous vehicle of every-day infection is unsupported, and that mouth spray is usually effective only at short distances."

How genuine is the fear of danger from air-borne infection in the public mind is strikingly indicated by the clamor of protest which assails a city administration when it proposes to build a municipal hospital for contagious diseases in any section where a large residential population has become established in advance. In Toronto the Good, and supposedly the intelligent, an admirable site for such an institution selected by the Medical Officer of Health, had to be abandoned some years ago on account of strong public protest, and later, when a site outside the city limits remote from population was suggested, the farmers of York County registered an objection. And that this theory of an air-borne infection still influences many members of our profession, and even some of our public health officials, is indicated in the tendency to build hospitals for contagious diseases on the pavilion principle, with all their attendant inconveniences and high expense of operation, rather than on the block system, in spite of the fact that infectious diseases are now treated with the best re-

sults and maximum freedom from cross infection in many hospitals recently erected, where the only precautions taken are to guard against contact infection, and air-borne infection is absolutely disregarded. Examples of such hospitals are the Pasteur Institute, Paris: the Kingston Avenue Hospital, Brooklyn; the North Brothers' Island Hospital; the Children's Hospital in Paris, and the contagious group of the Providence City Hospital. Winnipeg, several years ago, opened its new block hospital, conducted on the same principle, and with efficient nursing has had equally good results. A well-trained and strictly disciplined staff of nurses is, of course, essential to success, but no other quality of nurses should be tolerated in any type of hospital if cross infection is to be reduced to a minimum. Rosenau, in his recent excellent work on Preventive Medicine and Hygiene, states that communicable diseases are not conveyed from ward to ward or even from bed to bed, in well managed hospitals.

Before concluding, I desire to impress upon you and to emphasize the fact that, with the exception of water-borne epidemics of typhoid fever, or milk-borne infection in typhoid fever, scarlet fever and diphtheria, which are now fortunately of rare occurrence due to advanced knowledge and the more rigid enforcement of public health measures of prevention, the great factor in the causation of communicable disease is contact infection, which implies the close association of the well with the affected and the transference to the former of the infective contagium contained in the secretions or excretions, while still moist and fresh, on fingers, food, spoons, toys, etc., which have recently been mouthed or handled by the affected individual or in contact with his person or his discharges. This theory of contact infection is now accepted by practically all the leading sanitariums, and maintains that persons, not things, are chiefly responsible for the transference of infectious disease and that infections diseases are not to any appreciable extent carried by the air.

As a natural result of the air-borne theory of disease, there has been inculcated in the minds of the public, an entirely exaggerated idea of the value and importance of fumigation as a means of disinfection after infectious disease. The Provincial regulations of the Health Act call for the use of

formaldehyde fumigation even in cases of measles and mumps. During the year 1921 we had 2,381 cases of mumps and 417 cases of measles. Had we carried out fumigation as directed by the Health Act, we would have expended a large amount of money and so far as experience throughout the world is concerned, as expressed by the most prominent sanitariums, we would not have had the slightest results in the control of the epidemic. In these cases a disinfectant bath for the patient on recovery was ordered and a general cleaning and airing of rooms and boiling of all washable bedding and articles of clothing. In this connection the following statement in the *American Journal of Public Health* for February, 1915, emanating from the New York Health Department is significant.

### Why Fumigate?

The New York City Health Department has given up fumigation after cases of infectious disease, as a costly procedure, the inutility of which has been well established. In reply to the query of a New York State physician, as to the "why" of the action, Commissioner S. S. Goldwater stated that the Department was willing to profit by the lessons of experience and prepared to go forward even at the risk of being misunderstood for a time by the laity and by those members of the medical profession who are content to practise according to formulas which were valid a generation ago, but which should now be supplanted by more enlightened views.

He said that it was "disconcerting to read that health officers lack the courage to discontinue practices which they publicly confess as valueless," and asked whether it was not the duty of the department to the tax-payers to discontinue the practice.

In Ottawa for 1921, where there was a very severe smallpox epidemic during the year, formaldehyde disinfection was entirely discontinued and very satisfactory results are said to have been secured by substituting for it disinfection by the spray system using liquid Izal in a strength of 1 in 200. The expenditure was $250 as compared with $1,183 in 1920 under the old system of using gaseous disinfectants.

## COURSES FOR DIETITIANS OUTLINED BY AMERICAN DIETETIC ASSOCIATION

INSTITUTION MANAGER.

*Suggested Minimum—Two Years.*

I. English—3 semester hours: Written and spoken English, theme writing, special emphasis being placed on outlines, note taking, writing of clear, correct English. Also the writing of social, business, and professional letters.

II. Chemistry—10 semester hours:

*Inorganic chemistry*—6 semester hours: Properties, use, and preparation of important metals, non-metals, and other compounds. Elementary discussion of chemical theory. The laboratory illustrates theoretical instructions, and lays foundation of laboratory technic. Principles of qualitative analysis introduced.

*Organic and food chemistry*—4 semester hours: Aliphatic and aromatic series of carbon compounds with emphasis on such parts of organic chemistry as are most closely related to food chemistry. Chemistry of carbohydrates, fats, and proteins, including qualitative analysis of typical foods.

III. Physics—5 semester hours: Principles of mechanics, heat, light, electricity, and their application to the household.

IV. Biology—7 semester hours:

*Bacteriology*—4 semester hours: Nature of bacteria, related to public health, spread and contraction of disease, food manufacture and decomposition. Laboratory and lecture course.

*Human physiology and hygiene*—3 semester hours: Class, laboratory, and demonstrations on mammals.

V. Psychology—3 semester hours: General and applied psychology with experimental work as a basis for better understanding of employees.

VI. Economics—3 semester hours: General introductory course. Lectures and readings.

VII. Foods—4 semester hours: A study of foods and food composition, general principles of cookery, serving of foods. Laboratory work includes preparation of various classes of food, not only the fundamental foods but pastries, salads, entrees, and fancy desserts.

VIII.—Food Marketing—3 semester hours: Food production, transportation, storage, marketing and markets, co-operative buying and selling, price fixing and price regulation, trade discounts, trade names, and field practice in buying.

IX. Nutrition and Dietaries—4 semester hours: Chemistry and physiology of digestion, metabolism and its products; energy value of food; energy requirements of the body; nutritive properties and qualitative relations of protein, fats, and carbohydrates and ash constituents; vitamines. Food requirements of individuals in health and through infancy, childhood, adolescence, adult life and old age, menus for the different periods of life.

X. Diet in Disease—3 semester hours: A study of pathological conditions in various diseases and dietetic requirements to aid in their cure. Dietaries computed in grams and total calories and variations in menus planned for diabetic, nephritic, tubercular gastro-intestinal, anemic, febrile, and gouty cases.

XI. House Architecture—3 semester hours: Study and drawing to scale of typical floor plans and elevation of hospitals, cafeterias, lunch rooms, dormitories. Study of materials and treatment as to sanitary finishes, color schemes; kinds and installation of plumbing, heating, and lighting fixtures. Estimation of cost.

XII. Institutional Housekeeping and Laundry—3 semester hours: Details of the care and cleaning of floors, walls, equipment, machinery, and detailed processes of laundry work. Selection and cost of institutional furnishings; handling and repair of household linen.

XIII. Institutional Equipment—2 semester hours: Principles involved in construction of institutional equipment; care of equipment, types of equipment, newest equipment on market; planning of institutional kitchens; writing of specifications for equipment orders.

XIV. Large Quantity Cookery—4 semester hours: Preparation of foods in large quantities; studies of cost, loss in weight, determination of size of proportion, cost of each serving, selling price of each serving; menus for lunch rooms, cafeterias, tea rooms, dormitories, hospitals, and other types of institutions; economic and social feature of above menus.

XV. Administration, Organization and Accounting—3 semester hours: Types of institutions and systems of administration; labor problems; personnel; line of authority; labor turn-over; characteristics of employees of the different nationalities; management of help; duties of maids and janitors; other routine work of an institution household; the relation of a dietitian to an institution, her duties. Simple methods of accounting; factors entering into retail costs of food consumed; overhead; per capita costs.

*Pupil Dietitian*: Following the two-year course the pupil should spend four months in an approved hospital or other type of institutional organization before being placed in institutional work.

### Dietitian

*Suggested Four Year Course Leading to B.S. Degree*

Group A—Taken as part of a liberal education (should be one third of total):

*English*—6 semester hours required; others elective: Composition and rhetoric, 1 year, 6 credits. Commercial correspondence or Sophomore composition, 1 semester, 2 credits. English literature, 1 year, 6 credits. Advanced courses comparative literature, 1 semester, 2 credits.

*Language*—8 to 16 semester hours in the college: Latin in high school 3-4 years should be taken to give foundation for medical courses. Advanced courses in foreign language, reading knowledge should be the measure.

*History*—3 semester hours required: At least one year to secure knowledge of college methods in historic study—may be ancient, medieval, English, United States, modern, European.

*Art*—3 semester hours: General courses in art appreciation.

*Economics*—1 course required; others elective.

*Psychology*—3 semester hours required; others elective: General, 1 semester, 3 credits. Social, 1 semester, 3 credits. Experimental or educational, 1 semester, 3 credits.

*Sociology*—1 course at least on the organization of the family.

*Education*—Courses suited to needs of student.

Group b—Science as foundation for advanced study (should be at least 1/5 of total):

*Chemistry*—at least 18 hours: General, 10 credits. Quantitative, 3 credits. Organic, aliphatic, 3 credits. Food, 4 credits. Physiological, 5 credits.

*Physics*—1 year, 6 credits: General and applied.

*Biology*—1 year, 8 credits: Bacteriology, 4 semester hours: General and applied. Lecture and laboratory course. Human physiology and hygiene—4 semester hours: Lecture and laboratory course.

Group c—*Food Study*: Applied science, 1-1½ years, 10 credits:

1. Selection and preparation of foods including serving of meals. 1 semester, 3 credits. Lecture and laboratory.
2. Food economics (applied economics), 3 semester hours: Production, transportation, storage and preservation, markets, tests for quality, substitution values.
3. Experimental cookery, 1 semester, 2 credits.

Group d—*Textile Study*—1 semester, 3 credits: Textile chemistry, laundry chemistry, and laboratory practice.

Group E—*Housing and Sanitation*—1 year, 6 credits:

1. Architectural plans and details, plumbing, heating, lighting, sanitation, floor and wall finishes of hospitals, halls, cafeterias. 1 semester, 4 credits.
2. Decoration—1 semester, 2 credits: Study of textiles, furniture, color, design suited to institutional equipment.

Group F—*Dietetics*—1 year, 7 credits:

1. Nutrition and diet—4 semester hours: Dietary standards; diet as influenced by age, sex and occupation; construction of dietaries and service of meals; detailed dietary study made on self. Group dietary study made at practice cottage. Study of metabolic processes; urine, feces, blood analysis, and respiration tests following dietary studies. Food requirements of young children; comparative study of milk and various proprietary infant foods and formula; principles underlying milk modification in infant feeding.
2. Diet in disorders of nutrition—3 semester hours: Lecture, reading, and laboratory course. A study of intermediary metabolic processes, the adaptation of diet to the disorders of nutrition.
3. Organization of teaching courses—2 credits.

Group G—*Institutional Administration*—14 credits:

1. Organization and administration of institutions: Principles of industrial organization applied to purchasing food, equipment, and supplies for an institution, accounting and office records; storeroom management and inventories; studies of service problems in management of employees; institutional housekeeping cafeteria organization and management.
2. Large quantity cooking: Practice in preparing food for large groups; cost studies in changes in weight of food due to cooking; in determining size of portion; in number of portions per pound and in cost of servings. Limited to food majors. Lecture and laboratory.

3. Institutional dietaries and catering: Marketing and menu planning for all kinds of institutions, economical use of foods, catering, community kitchens.
4. Institutional laundry management: Purchase, care, and use of laundry equipment, use of soaps, starches, and bluing; organization of work in laundry; methods of laundering various materials; methods of checking and accounting.
5. Tea room, restaurant, and hotel management: Study of location, amount of capital needed, necessary equipment, organization of staff and work, menus' cost accounting, and advertising.
6. Institutional equipment: Principles involved in construction of institutional equipment; care of equipment; types of equipment; newest equipment on market; planning of institutional kitchens; writing of specifications for equipment orders.

Group II—*Clinical Laboratory Diagnosis*—1 semester, 3 credits: Study of metabolic processes with special references to abnormal conditions. Analysis of normal and pathological urine, gastric contents, stools, blood.

*Suggested Year Graduate Study (12 mo.) for M.S. Degree*: First period—Pupil dietitian in hospital or University Commons, 3 months. Second period—Clinics in hospital or dispensary work in research and metabolism laboratory. Third period—Research problem under hospital and department management.

# Selected Articles

## A MEETING OF THE CADUCEUS MEDICAL SOCIETY AS FANCIED BY

WALTER M. BRICKNER, M.D., F.A.C.S.,
*New York, N.Y.*

Dr. Bromide presented a case of *Nail Biting due to Focal Infection.*

The patient was a young woman of 52. Her father was a minister, but her family and previous history were otherwise irreverent. She never had blastomycosis, schistosomiasis, meralgia paresthetica or acanthosis nigricans. She menstruated regularly at 3 o'clock every fourth Thursday, except Thanksgiving day and occasional silent intervals due to suspected pregnancy. For eight years she had been biting her nails with steadily increasing voracity. She had consulted manicures, chiropractors and other doctors—all of whom had failed to find the cause of her malady or to relieve it. Then she consulted Dr. Bromide. Being an ear specialist, he was reluctant to take the case, but it so excited his scientific curiosity that he consented to do so. He had the patient removed *immediately* to the hospital for further study. There she was cystoscoped, pyelographed, bronchoscoped, lumbar punctured and sigmoidoscoped, with negative findings. Her blood count was within normal limits, and so was her colloidal gold reserve—considering the present rate of exchange. During periods of nail-biting her pulse was exaggerated, but electrocardiography showed the P-wave and T-wave in their proper alphabetical relationship. Her A-bile, B-bile and C-bile also showed no alphabetical disturbance, and she denied G. and S. Ear tests by caloric stimulation showed normal nystagmoid reactions. There was no past-pointing or ataxia. Also there was no astereognosis, adiadochokinesis or other pollysyllabic

symptom. Her Wassermann was negative; so were her Meltzer, her Rovsing, her Ewald, her Rehfuss and her Wolff-Junghans. She had no MacEwen, Argyll-Robertson, Stellwag, Von Graefe, Chvostek, Romberg, Brudginsky, Babinski, Chaddock, Gordon or Oppenheim Collins. Her urine contained epithelial cells and urea, but was otherwise normal. Her blood chemistry was also normal except for a marked increase of the keratin content, obviously due to the ingestion of fingernails.

All of these tests and examinations failing to show any other cause, Dr. Bromide concluded that the etiology of the disease was a focal infection. The tonsils having been somewhat removed in childhood, he had all her teeth extracted. Thereupon the nail-biting ceased *cito, tuto et jucunde* and has not since returned. He presented the patient as an instance of focal infection causing an obstinate and prolonged disease, promptly cured by the removal of the foci. He had had cultures made from the roots of the teeth and, if there should be any return of the symptom, which he doubted, he would inject these vaccines under the nails.

In discussion:

Dr. Bundler said that Dr. Bromide and the society were both to be congratulated on the presentation of this highly interesting and instructive case. The report was so complete that little could be added. Nor could one well criticize the logical diagnosis offered, in the face of a cure so striking. It occurred to the speaker, however, that Dr. Bromide had, curiously enough, omitted to test the basal metabolism. It had always seemed to him that nail-biting, tooth-sucking and other habit-neuroses if, in the light of modern medical science, they may be called neuroses (for such terms are but a cloak for our ignorance), are traceable more or less directly to disturbance of the ductless glands, to a state of endocrine imbalance, so to speak. In earlier days we talked of vaso-dilators and vaso-constrictors; we have been passing through the era of vagotonia and sympathicotonia; we are entering the period when we must talk in terms of those no longer mysterious bodies that control these manifestations.

These are the governors and escapements, the springs and balances that control metabolism, socialism, health, wealth, puberty, piety, waste and repair, growth and death, judgment and error, fear and fury, war, rebellion, fires, volcanoes, earthquakes and Tom Watson. Can anyone doubt that when Bernard Shaw wrote "Back to Methuselah" he was plus-pituitary? Can anyone who sits through it be other than hypo-adrenal? Consider the discharges from these glands that enter the blood stream! Note that while the thyroid discharge is activating, the adrenal is inhibiting, the anterior pituitary is productive, the ovary reproductive, the parathyroid sedative and the pineal—ah, the pineal!

These data (or is it "this data?") having been demonstrated and now generally accepted, how can we apply them —or it—to the treatment of nail-biting? "Let me illustrate," said Dr. Bundler, "by a case of my own. This was a young spinster of 49, who had been nail-biting since the menopause (hypo-ovarian). I put her on a mixture of ovarian, thyroid and adrenal extracts, with just a dash of testicular extract. As an adjuvant she was given a tonic containing strychnine, nux vomica, iron, arsenic and the glycerophosphates. The doses were steadily increased until, at the end of three years, she suddenly stopped nail-biting. At the autopsy next day no focal infection was found. You see, therefore, that we must not draw too sweeping conclusions from Dr. Bromide's isolated case. Focal infections may, and probably do, play a large rôle, but we must eliminate and treat the other disorders that underlie the battling malady called nail-biting, of which, as my case illustrates, endocrine disturbance is the most important."

Dr. Tannenbrill said he was much impressed by Dr. Bromide's presentation and by the remarks of the last speaker. Nail-biting was an old disease, one of the few that had not been thoroughly described by Virchow. It had come down to us through the years. Did not Shakespeare tell us that the Capulets (or was it the Amulets?) and the Montagues bit their thumbs when they passed, to express disdain? Nail-biting was an expression of *repressed* emotion. To cure it, one must discover the unrecognized emotion by psychoanalysis. Freud himself—or was it Oedipus?—had showed that every indi-

vidual who bit his nails had wet his diapers in infancy—clearly an affect of the libido, a sexual dysphrenia, so to speak. In every case of nail-biting one must seek out the repressed desire, the provoking subconscious irritation. Discover it—or supply it—and the patient is cured! Dr. Tannenbrill had under treatment a woman of 28 who began nail-biting two years after she married. He has psychoanalyzed her forty-eight times and believes that after another fifty sessions something will happen. What did her nail-biting represent symbolically? Hunger! Hunger! Hunger for food? No, her husband allowed her eight dollars a week for the table and she had corned beef and cabbage, beef stew and pies whenever she wanted them. Hunger for what, then? Hunger for love! Hunger for her husband's love! "On the 36th analysis," said the speaker, "I learned that he was a street-car conductor, all day in the company of other women. On the 41st analysis she told me that in his sleep he said 'fair lady; lively lady.' Clearly he was dreaming his 'wish fulfilment.' Subconsciously she feared that she might lose his love. She did not know she feared this, but I knew it, and I told her. Little by little—for one must be insistent in psychoanalysis—she began to believe that I was right—not, as yet, that her husband did not love her, but that she subconsciously feared he might cease to love her. On the 45th analysis she reported to me that he looked at the corset advertisements in the theatre programmes—another symbolism. He was beginning to sublimate! Another detail convinced me that I was on the right track: the husband, as I said, was a carpenter, and often had nails in his mouth. Was it not clear that she must have thought of him biting these ten-penny nails and, fearing that he might some day cease to love her, the imitative act, the symbolic representation, of biting *her* ten puny nails was subconsciously suggested and performed! Here is a complex complete—the sex relation, the suggestion, the repression, the symbolism—a perfect exposition of the disturbed libido. Moreover, and this is significant, when the husband learned that she was coming to me to be psychoanalyzed for biting her nails, he began tearing his hair. Could incompatibility be more evident! He does not understand his wife, he inhibits her soul-expression. Although she did not know it, she feared she'd lose her husband.

She *shall* lose him. In another fifty seances I'll have them divorced. Then she'll have to earn her own living and will not have time to bite her nails. Is it not better to cure a woman of nail-biting by extracting her husband than by extracting her teeth!"

Dr. Adamite said he, too, thought that nail-biting was a nervous manifestation. He believed it had increased as a result of reaction to the war and the high cost of manicuring. He recalled a case of nail-biting in a mechanic, which had resisted all treatment. One day the man lost his hands in a chopping machine, and the nervous shock was so great that he stopped biting his nails at once.

Dr. Attaboy congratulated Dr. Bromide on his result. He would like to ask whether any food-deficiency studies had been made in the case. How can one feel justified in attributing nail-biting to focal infection, endocrine disturbance, subconscious repressions or nervous shock, without eliminating food-deficiency? Dr. Attaboy did not refer to calories merely. Calories were good enough in their way, but they are not this year's model. He had in mind the vitamines—the water-soluble and fat-soluble vitamines, the A vitamines and the B vitamines! He had had no personal experience with cases of nail-biting, but it seemed to him that if it indicated hunger, as Dr. Tannenbrill had so eloquently shown, it might be hunger for vitamines. He thought that this was a field that invited further inquiry.

In closing Dr. Bromide said that he was glad his case had evoked so much scientific discussion; and that he had thought of endocrines, and symbolism and vitamines and all those things, but, after all, he was an ear specialist; and besides the prompt cure of his case proved the correctness of his diagnosis.

The Paper of the Evening: *Is Arterial Hypertension a Cause or an Effect?* was read by J. Ventricle Systerly.

"I should like to slightly modify the title of my paper, as printed on the programme. My thesis is 'Is Arterial Hypertension a Disease *Sui Generis* or merely *Per Se?*' So much is appearing in our current literature on the subject of hypertension, and it is so often discussed at our medical meetings

that I felt reluctant to comply with our chairman's request for a paper on that topic, and my only excuse for presenting my few observations again lies in my desire to arouse discussion on this important and vital subject.

"In his classic article in the *Journal of Cyanosis*, Cluett Peabody calls attention to the fact that the morbidity and mortality statistics of the United States Registration Area show that hypertension, like bootlegging, is on the increase. Whereas in 1910 one man in every 150 died of hypertension every year, in 1920 one and a quarter men died of it every year, or sometimes twice a year, leaving but 148¾ men to die of less fatal diseases. In small communities where there are not 150 men, they have to wait more than a year for a hypertension funeral. These statistics include all the so-called hypertensive states, except South Carolina.

"I have been carefully studying the weekly mortality tables of the N.Y. Health Department, and I have noted that whereas in the first decade of life there are more deaths from marasmus and enteritis than from apoplexy, in the sixth decade the converse obtains. Whether this condition is true only of the Atlantic seaboard I have not yet ascertained. I shall not here enter into the various hypotheses that this observation suggests.

"Among professional men, physicians are very prone to hypertension. Many of them die of it, and many live on it. At the New York Hospital for Pericarditis and Allied Diseases I made a study of the blood pressures of the sixty-seven attending physicians and surgeons who were approaching the age limit. I shall now demonstrate to you the sixty-seven charts on the wall showing the blood pressures before, during and after a Medical Board meeting. It was found impossible to strike an average, for some were more and some were less, but you will note that the lowest blood pressure was 152 centigrade and the highest 188 Fahrenheit. I also discovered that if, instead of using mercury in the manometer, I used a solution of potassium iodide, the pressure was much higher. This establishes on a scientific basis the greater value of mercury in keeping the blood pressure down.

"Mustgowest, in a series of brilliant articles, some of which are not yet written, has shown to his entire satisfaction that arteriosclerosis and nephritis are not the cause but the effects

of hypertension. Time will not permit me to enter into a discussion of all Mustgowest's teachings, which are no doubt familiar to you. Among others, he has shown that individuals with hypertension do not play enough. Like most rules in medicine, this one is not without exceptions. I have a patient with a systolic pressure of 200 who plays all day—on the saxophone.

"In the *Zeitschrift für Gravidität and andere Kinderkrankheiten,* November 11, 1918, Schweiner reported that he found in the blood of a man who had died of hypertensiveness, a filterable, pleomorphic, anerobic, flagellated, spore-bearing cocco-bacillus which, when preserved in natural colors by the method of Melnikoff-Roswedenkow shows the same cultural peculiarities as the Rickettsia-Prowâzeki. Schweiner calls this organism the *bacillus hypertensus Schweineri.* Thus far no other observer has corroborated his finding; and so it must be said that the exciting cause of hypertension has not yet been established.

"Hammacher and Schlemmer, in the *Archiv. für Blutgefäss-und Mastdarm-Krankheiten,* April 6, 1917, recorded that if the hormones are extracted from the blood of a fasting guinea-pig the blood pressure rises to a marked degree, and they suggest the hypodermatic injection of hormones as a means of treating hypertension—another brilliant triumph of pure research, of animal experimentation, another aid from the laboratory in the unceasing crusade against disease. But further clinical test and observation must be made before we can definitely accept into our therapeutic armamentarium the suggestion that comes from this striking and interesting phenomenon.

"If now, we correlate the few observations I have here recorded, and the many that have been made by other investigators, in the light of our daily bedside experience with the manifold manifestations of that protean morbid state, whose symptom-complex we recognize at once when we read the manometer, and which, in the present state of our knowledge we call 'hypertension,' recognizing that the hypertension itself is but a part—though an important one—of the entire process, we see in it a disease in itself almost *per se,* but not strictly *sui generis*; and we may go forward on that basis with the as-

# Items

## NURSES' FINE REMITTED

Judge Morson has allowed the appeal of Miss McLoid Bright, a nurse in a Toronto doctor's office, who was fined $500 and costs by Mr. Cohen for an alleged Breach of the Drug Act. In his judgment, his Honor says:

"The facts are briefly as follows: The appellant was a nurse in a certain doctor's office in Toronto. The person to whom she gave the drug was at the time a patient of this doctor, who had been for some time prescribing the drug in question in liquid form. On the date of the offence the doctor had left town for a week-end, and before doing so had instructed the appellant, as he had done on former occasions, to look after his patients until his return. During his absence the patient, who had been getting the drug, sent a Miss Smith, who was in the habit of calling on the doctor on behalf of the patient, for the usual prescription.

"The doctor being away, the appellant, at the request of Miss Smith, gave the usual drug to her, but not in the usual liquid form, as she was unable to find any in that form, but gave it in tabloid form. This dose was, in fact, less in strength than the liquid form. She was given $10 for it, but returned $5 and credited the other $5 to the patient's account in the doctor's books. It was for administering this drug in the manner stated that the appellant was convicted.

"Under the Act the doctor was permitted to prescribe the drug without committing any offence, and I do not think it would be any offence for him if, instead of giving it personally to Miss Smith or his patient, he had given it to the appellant while in his office and in his employ with instructions to hand it to Miss Smith. If that is so, I can see no difference in principle in the appellant, in the doctor's absence and under his instructions, giving it to the patient, as was done in this case.

"It seems idle to contend he cannot delegate his authority. In doing so he has not delegated the authority to commit an offence under the Act; it is only authority to prescribe or give

a drug, which the doctor had the undoubted authority to do. The fact that the drug was not in the same form is, I think, of no consequence. I cannot assume that the Act in its present form prevents the delegation of authority of an authorized person to someone else to give the drug under the circumstances.

"So far as the evidence before me was concerned, there was not the slightest want of honest intention on the part of the appellant. She was absolutely ignorant of any scheme connected with the obtaining of drugs for an improper purpose. Anything she did, in my opinion, was innocently done and with the honest purpose, so far as I can see, of following the instructions of the doctor.

"I cannot bring myself to conclude that the Act was intended to make it an offence to do what the appellant honestly and innocently did in the present case.

"The appeal must, therefore, be allowed with costs, and the conviction quashed."

---

## HOMEWOOD SANITARIUM

It will interest the medical profession to know that a handsome and commodious nurses' residence will be built in connection with Homewood Sanitarium this Spring. The plans are practically complete and the work will be started just as soon as the frost is out of the ground.

Dr. Hobbs, who has for many years been medical superintendent, has resigned his position at Homewood, and was succeeded on the first of February by Dr. Clarence B. Farrar. Dr. Farrar has had a splendid training. He graduated at Johns Hopkins University in 1900; was assistant physician Sheppard-Pratt Hospital, Baltimore, 1900-1902; he took postgraduate studies at Heidelberg University from 1902 to 1904; he was research assistant, Carnegie Institution, Washington, 1904-1906; he became assistant physician and director of Laboratory, Sheppard-Pratt Hospital, Baltimore; was visiting physician, City Detention Hospital, Baltimore; assistant in Neurology and associate in Psychiatry, Johns Hopkins Uni-

versity 1904-1913. Dr. Farrar went overseas as Captain and Major in the C.A.M.C., remaining overseas from 1916 to 1919. He was appointed chief psychiatrist, Department of Soldiers' Civil Re-Establishment in December 1918; and is also a member of the American Psychiatric Association and the Ontario Neuropsychiatric Association. We take this opportunity of wishing Dr. Farrar every success at Guelph.

---

## BACTERIOLOGIC AND CLINICAL EXPERIENCE WITH BACILLUS ACIDOPHILUS

Louis M. Gompertz, New Haven, Conn. and Martin G. Vorhaus, New York (*Journal A.M.A.*, Jan. 13, 1923), aimed to implant *Bacillus acidophilus* in the intestine, and, while maintaining it as the predominant intestinal organism, to determine what changes, if any, were noted clinically. In the cases mentioned, the implantation of this organism was successful, and during treatment it became the predominant fecal organism, and the authors were able to recover live *Bacillus acidophilus* from the feces. *Bacillus acidophilus* was employed in various forms. By mouth, it was given first as milk fermented by this organism, and later in nutrient broth cultures. In some instances it has been given by rectal implantation. The authors are not enthusiastic over this method, as it must always be supplemented by oral administration. For oral use they have found the culture more desirable than the milk. The dose is from one to two tablespoonfuls, three or four times daily, before meals, depending entirely on the response of the individual. The culture may be taken with milk, orange juice or with lactose and Vichy water. In a large series of cases the authors have failed to see any advantage of the milk over the culture. With the latter, implantation is effected as rapidly as with the milk, and maintained as long.

# Correspondence

The Editor cannot hold himself responsible for any views expressed in this department.

## THE UNIVERSITY COMMISSION—A NEW PASTIME

To the Editor of the Canadian Journal of Medicine.

Dear Sir:

I have been reading the reports of the University Committee. Some real hot stuff! Good copy! Are the medical professors all surgeons? Are there no physicians, no obstetricians, no gynæcologists, no eye and ear, no throat and nose men on the Faculty? Why are *they* so retiring? Have *they* weak eyes and dread the fierce light of committees?

I see that one Sir Thomas White testified that the positions of surgeons were great prizes—carrying prestige, honors and emoluments. Many a surgeon says: "Would God it were so, especially the emoluments!"

Where and when did they dig up this man White? How long has he been dead? Any relation to Rip Van Winkle? It's dollars to doughnuts that he wore a top hat, was eminently respectable, solid and a bit set on himself.

When this Sir Thomas White *was alive*, there was but one surgeon, one physician, one gynæcologist, and one specialist. A hospital position in those days was worth while.

To-day there are so many surgeons on the General Hospital staff that they have to form a line to get in at the front door. At the other hospitals, they have to shout "Gangway!" to get a patient in through the mob of surgeons. Surgeons are everywhere. You cannot throw a stone at any country cross-roads without hitting at least one surgeon. I now take my fall holidays with surgeons. Far greater sport than shooting deer! Bigger bags! More humane, too! Promote the public weal as it were! Why didn't *the* surgeon kill Sir Thomas good and sure? Why not sic a present day surgeon on him?

And say, did Clarence put it over that poor fish, Tom Gibson? Did he? Well! I'll tell the world! What does the Boxing Commission mean by letting Tom in the same ring with Clare? Tom thinks he is a fighter. He isn't. He's only a fan!

If this Committee goes on a little longer, the police or the Humane Society will have to interfere.

Yours joyously,
An amused onlooker.

P.S.—Here is a sporting offer for you! I know a surgeon, Mr. Editor, who will trade you, on sight unseen, a surgeoncy for your editorship. He will throw in to boot an excellent stage manner, the necessary instruments, to wit, one kettle drum, one bass drum, one trombone, one trumpet, one cornet B sharp (naturally), one spot light and a Ford Sedan.

Come on now Willie! Are you on? No? You always were a cheap skate! Never would take a chance!

---

# Book Reviews

*Diseases of the Ear, Nose and Throat*—Medical and Surgical —by Wendell Christopher Phillips, M.D., Professor of Otology, New York Postgraduate Medical School and Hospital. Sixth revised edition, illustrated with 578 half tone and other text engravings, many of them original, including 37 full page plates, some in colors. Philadelphia: The F. A. Davis Company, publishers. 1922. Price, $8.00 net.

In this book the author describes the principal diseases of the ear, nose and throat with the most approved forms of treatment. Dr. Phillips, as a teacher of twenty years' standing, is in a position to give the profession everything that is most recent in otology and laryngology, and after looking through his book, we commend it to our readers. The book is written, not necessarily for brother specialists, but particularly for general practitioners and for that reason it should meet with a ready sale.

*Feeding, Diet and the General Care of Children.* A book for mothers and trained nurses, by Albert J. Bell, A.B., M.D., Assistant Professor of Pediatrics in the Medical Department of the University of Cincinnati. Illustrated. Philadelphia: F. A. Davis Company, publishers, 1923. Price, $2.00 net.

This small book contains much valuable material, not only for mothers and nurses, but also for physicians, dietitions, and others interested in child welfare work. Infant care and feeding is discussed in simply-worded detail. Attention is also given to care and feeding of children during the much-neglected period between infancy and the school age. The arrangement of subject material is unique but effective, and the reader obtains the author's views without effort. Dr. Bell has used material only from the best authorities upon these subjects, to supplement his own material. The complete diet lists make the book particularly helpful for mothers seeking a reliable guide for the feeding of children beyond infancy.

---

*Principles and Practice of Infant Feeding*, by Julius H. Hess, M.D., Professor and Head of the Department of Pediatrics, University of Illinois College of Medicine. Illustrated, third revised and enlarged edition. Philadelphia, F. A. Davis Company, publishers. 1922. Price, $4.00 net.

The works that have been published, at least of recent years, dealing with Infant Feeding have as a rule been too ponderous and just lengthy enough to be tiresome. Dr. Hess' book is on the other hand modest in size and written in a way that is interesting and holds the reader's attention. Nurses will find the chapters devoted to the preparation of infants' foods, the nursing, particularly, of premature infants, exceedingly useful and helpful to them in their studies. We congratulate Dr. Hess upon his concise little volume.

*Clinical Medicine.*—Tuesday Clinics at the Johns Hopkins Hospital, by Lewellys F. Barker, M.D., LL.D., Professor of Medicine, Emeritus, Johns Hopkins University; Visiting Physician to Johns Hopkins Hospital, Baltimore, Md. Illustrated. Philadelphia and London: The W. B. Saunders Company. Canadian Agents: The J. F. Hartz Co. Limited, Toronto. 1922. Price, cloth, $7.00 net.

Those who have had the privilege of attending the Tuesday clinics at Hopkins, inaugurated by Osler and continued by Barker, will welcome this volume. And those who have not been so fortunate, will, through perusal of this volume, understand the popularity of these clinics. The present volume has been prepared in response to the requests of Barker's students. The study of these clinical lectures, in which both Socratic and direct methods of teaching are used, cannot but arouse interest in the clinical subjects discussed and create a belief in the value of scientific methods in clinical work, emphasizing as they do essential facts and important principles in diagnosis and treatment. One's interest is held throughout the whole of the record of the clinic and gradually one realizes that not only has an individual case been demonstrated, but that the type seen has been used to present a general picture of the condition or disease under discussion. The success of this method of teaching clinical medicine has been amply demonstrated. Reference is made in the foreword to the influence of the clinical teaching of Profs. McPhedran, J. E. Graham, I. H. Cameron, Osler and others.

The introductory clinic forms the basis for a discussion of general principles of study and diagnosis. The succeeding clinics deal with diseases illustrative of involvement of the organs of respiration, circulation, digestion and locomotion, with others on the nervous and hemopoietic systems. There are two also upon diseases of metabolism and two upon endocrine disturbances. Appended to each clinic is a bibliography covering the subject in hand, and the value of the book is enhanced by an index to the bibliography in addition to a generous general index. A treat is in store for every reader of this excellent volume.

# The Canadian Journal of Medicine and Surgery

A Journal published monthly in the interests of Medicine and Surgery

VOL. 53 TORONTO, APRIL, 1923 No. 4


## Editorial

### Challenge to Physicians

The relationship of the public health departments to the general practitioner is as yet but ill-defined and, therefore, not always free from friction.

Dr. J. D. Robinson, former health commissioner for Chicago, pens a direct challenge to the latter in the January number of the *American Journal of Public Health*, in which he claims that the general practitioner in many of our cities is obstructing modern progressive ideas for health conservation; and that both by practice and by pen, various leaders in medicine are adopting a reactionary, if not antagonistic, attitude toward the rapid extension of authority claimed by public health officials.

Dr. Robinson says that it should be a matter of pride for a physician to be able to say that his entire clientele is vaccinated and immunized. He pictures the family physician receiving from the

health officer a slip which tells him that the child of one of the families he attends is suffering with adenoids, defective teeth or tonsils. Instead of looking at such a document as valuable information, many doctors seem to take offence that anyone should interfere between them and the families they are serving.

On another page the author suggests that physicians educate their public to the need of an annual physical examination. "It is not only his duty to carry this message to them, but it is also his duty to insist upon their going either to his office or to some other medical man's office for an audit of their physical condition."

Until such education is complete—and we doubt whether anything less than compulsory measures will suffice—it is hardly to be wondered that the family physician is disposed to take offence at the "slip" that carries with it such an obvious implication.

No one acknowledges more quickly and heartily than the private practitioner, that preventive medicine has come to stay, and that its field is extensive. But as yet there is no well-marked boundary line between public and private health practice. Medical health departments with a backing of state authority have often too little sympathy with, and courtesy for, the anomalous position of the family doctor of to-day.

## Scurvy in Infants

Scurvy occurs in infants between the 6th and 18th month generally, being more commonly found among those who are fed upon cooked or much-heated food.

These children are restless (often attributed to teething), hard to suit and resent coddling. They complain of pain when their legs are handled, as when diapers are being changed. There is a purplish discoloration of the gums, more noticeable where teeth are present. The gums about the teeth swell, become dark and bleed easily. There may be some swelling or discoloration about the joints. Black and blue spots should be looked for around joints and parts subjected to pressure and injury.

From one to two dessertspoonfuls of orange or tomato juice should be given three or four times a day for three or four days; then twice a day for a week; then daily continuously for many weeks to prevent relapse. The cooked or heated foods should be stopped and raw, certified milk administered; also vegetable juices and mashed potatoes or potato soup.

If infants of three months and over were given orange juice at least four times a week, scurvy would be prevented.

Dr. Legrand Kerr, whose contribution on this subject to *The Trained Nurse* we have epitomized, adds that if symptoms are acute, the infant may be lightly bound to a pillow to protect muscles and joints from injury.

The mouth should be kept thoroughly cleansed; so should the whole skin surface, by gentle bathing. Special attention should be paid to the genitals and the buttocks. Feeding should be regulated and food utensils should be kept particularly clean.

---

## Stolen Thunder

The drugless healers, in their recent memorandum, presented at the Toronto University probe, mingled some good sense with much nonsense, as is usually the case.

The nationalization of medicine, which they advocate as a future good, is already partially exemplified in the fast-extending authority of the public health boards. What portion of medical treatment may be left to the private practitioner, (should complete medical nationalization take place) will be merely an adjustment of income. And since the amount, if smaller, would at least be assured, the sadly imposed-upon medico of to-day might not object to the change.

But the drugless healers delightfully ignore the fact that the pronouncement, which they make as those who have discovered a new thing, is an old platitude to the modern man in medicine. The only way to cure or prevent disease, they say, is to remove or prevent the cause. Natural remedies are the safest and best. The natural remedies referred to are, according to the memorandum, diet, water treatment, fresh air, sunlight, and exercise.

What doctor of to-day fails to prescribe any or all of these in treating his patients? His drugs (and the able physician uses but few) are to assist the healing powers of nature by removing obstruction or easing irritation caused largely by neglect of natural health laws.

Drugless healing is not a cult in itself. This treatment is incorporated into the very body of medical therapeutics; but until we all live hygienically from cradle to grave, germ diseases have to be fought out on a battlefield other than drugless.

---

## Measuring Intelligence

Press reports state that at the recent big gathering of scientists in Boston, a Yale professor took strong exception to the "intelligence tests," so much in present vogue in educational and commercial institutions, and the inflexible manner in which they are interpreted.

He asserted that such work was usually unreliable: "You cannot handle human beings and settle their futures with test tubes and stamps. The soul will burst through, whether the machine says it can or not, and it is worthy of the most sober consideration whether fundamentally there be any constitutional warrant for processes which are so plainly arbitrary."

The professor will find many who will agree with him. The public accepts the dictum of science in most instances with outward respect, but often with a measure of quiet reserve. It has never been

over-enthusiastic concerning the efficiency expert, when he goes beyond machinery to apply similar tests to human toilers. It certainly refuses to believe that processes largely mechanical, can satisfactorily determine the spiritual and intellectual qualities of human subjects.

The Yale scientist declares that statistics obtained by these mechanical intelligence tests are faulty and unreliable; and the public at large, from their common sense outlook, are disposed to agree with him.

---

## Respiratory Gymnastics

Kouindjy, of Paris, sums up on this subject in the *New York Medical Journal* by saying that if respiratory exercises are indispensable for the profitable execution of the exercises in physical education, they assume a preponderating rôle in respiratory gymnastics. Of the two phases of respiration, inspiration is the active mode and is accomplished by means of a powerful group of muscles, the action of which can only be trained by a series of rational physical exercises. Their aim is to enlarge the thorax and consequently to increase the supply of oxygen which is indispensable for the metabolism of the body. Air should be inspired through the nose in order to warm it. Respiratory exercises must be voluntary and carried on by deep inspirations through the nasal cavity.

## Medical Students and Tuberculosis

Ninette Sanitarium in Manitoba has established a sort of world's record in the training of medical students, avers its capable and progressive superintendent.

Dr. Stewart states that, although 150 miles from the Medical College at Winnipeg, 240 medical students have put in an average of more than a month's apprenticeship. The eyes of the world are upon Ninette. Every medical school and every sanitarium would do exceedingly well to connect up in this way.

Every medical student, before graduation, should be required to take two or three months' training in a sanitarium for tuberculosis.

# The Canadian Journal of Medicine and Surgery

Toronto ——— Canada


## Board of Editors


THE PRINCIPLES OF SURGERY AND SURGICAL PATHOLOGY:

Irving H. Cameron, M.B., LL.D., F.R.C.S., England; F.R.C.S., Edinburgh; F.R.C.S., Ireland; F.A.C.S.; Emeritus Professor of Surgery, University of Toronto.

PRACTICE OF SURGERY:

N. A. Powell, M.D., C.M., Emeritus Professor of Medical Jurisprudence, University of Toronto. Herbert A. Bruce, M.D., F.R.C.S., Eng., Associate Professor of Clinical Surgery, University of Toronto,

HOSPITAL ADMINISTRATION:

J. N. E. Brown, M.D., Toronto, former Superintendent Toronto General and the Henry Ford Hospital, Detroit, A. R. Haywood, M.B., M.R.C.S., L.R.C.P., Eng., Medical Superintendent, Montreal General Hospital.

OPHTHALMOLOGY:

J. M. MacCallum, M.D., Chief, Department of Ophthalmology, Toronto General Hospital; Walter W. Wright, M.B., Assistant in Ophthalmology, Toronto General Hospital.

NOSE, THROAT AND EAR:

Perry G. Goldsmith, C.B.E., M.D., Chief, Department Ear, Nose and Throat, Toronto General Hospital; J. K. Milne Dickie, M.D., F.R.C.S., Edin., Ottawa.

PEDIATRICS:

Augusta Stowe Gullen, M.D., Toronto; Alan Canfield, M.D., Visiting Physician, Hospital for Sick Children, Toronto; Gaorge Smith, B.A., M.B., Associate Physician, Hospital for Sick Children, Toronto. Helen MacMurchy, M.D., Chief, Division of Child Welfare, Department of Health, Ottawa.

MEDICINE:

J. T. Fotheringham, C.M.G., M.D., LL.D., Associate Professor of Clinical Medicine, University of Toronto; Jabez H. Elliott, M.D., F.A.C.P., Past President, Academy of Medicine; Dr. Julian Loudon, B.A., M.B., M.R.C.S., Eng., L.R.C.P., London, F.A.C.P., Physician-in-Chief St. Michael's Hospital, Toronto; Lewellys F. Barker, M.D., Baltimore, Emeritus Professor of Medicine, Johns Hopkins University.

CLINICAL MEDICINE:

H. B. Anderson, M.D., Toronto; George S. Strathy, M.D., L.R.C.P., M.R.C.S., Eng., Clinician, Department of Medicine, University of Toronto; W. B. Thistle, M.D., L.R.C.P., London, Associate Professor Clinical Medicine, University of Toronto. R. T. Noble, M.D., Past President, Academy of Medicine, Toronto; G. W. Ross, M.A., M.B., M.R.C.P., London, Eng.

MENTAL AND NERVOUS DISEASES:

N. H. Beemer, M.D., Medical Superintendent, Ontario Hospital, Mimico; Campbell Meyers, M.D., M.R.C.S., L.R.C.P., Eng.

GYNECOLOGY

F. W. Marlow, M.D., F.R.C.S., England; Associate Professor of Gynecology, University of Toronto.

OBSTETRICS:

J. Gordon Gallie, B.A., M.D., Assistant Department of Obstetrics and Gynecology, Toronto General Hospital.

DERMATOLOGY:

D. King Smith, M.B., Clinician, Department of Dermatology, University of Toronto.

ROENTGENOLOGY:

W. M. Carrick, M.D., The Mayo Clinic, Rochester, Minn.

MANAGING EDITOR:

W. A. Young, M.D., L.R.C.P., Eng., Toronto.



Address all communications to "The Canadian Journal of Medicina and Surgery," 145 College Street, Toronto, Canada.

Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experiance and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., must be in our hands by tha first of tbe month previous to publication.

# Original Contribution

## TRAINING SCHOOLS IN MENTAL HOSPITALS

Miss McMillan, Superintendent of Nurses
Rockwood Hospital, Kingston.

The Training School for Nurses in connection with mental hospitals has of late been receiving considerable comment, in so far as some of our Graduate Nurse Associations considering the training is inadequate and refusing graduates of Mental Hospitals admittance to the various Associations.

After three years' work in a mental hospital, I have been convinced that the graduates of general hospitals have a very wrong impression of the work done, the training received, and of the class of young women admitted to the schools. The pupils of our schools are of the same type as found in the best training schools, either at home or abroad. Our course of lectures is thorough and complete, having compared our syllabus with those of the best schools of Canada and the United States. Our instructors consist of our own medical staff and the professors from Queen's University. They also have access to the clinics in gynecology, medicine, surgery and obstetrics with the fourth and final year students from the university. Our graduates are found holding positions of responsibility in many New York hospitals. It is not uncommon for them, when taking post-graduate work, to be found heading the list in the examinations.

Of the various special hospitals and the small general hospitals, I maintain that the training received in a mental hospital is by far the best, and for obvious reasons. First of all we have a much larger population, varying from 700 to 1,000 people, of all ages, both women and men. Of this number many of the mental conditions are secondary to physical ills. Frequently the physical condition requires first atten-

tion. Then again with the patients who are able to be occupied in the ordinary occupations of life such as farming, carpentry, tailoring, in the laundry and many other occupations, accidents sometimes occur as they do in any community. During the past year we have had fractures such as Pott's, Colles, fractures of femur and numerous simple fractures, necessitating application of varions splints and plaster casts, also dislocation, laceration, etc.

Newer scientific methods and operating room equipment naturally necessitate the constant changing of nursing technique and operating-room procedure generally. The operating room is up-to-date, modern in every respect, as is also the sterilizing room adjoining where a Bramhall-Deane sterilizer is installed.

The operative work is quite extensive, as you may judge from the following record of some of the work done within the past year. Our school work is so organized that the pupils attend each of these operations as a class while they in turn scrub, hand sponges, instruments and sutures. The type of cases has varied considerably, and is about the usual found in the general hospitals, such as the appendectomy, herniotomy, double amputation (legs), breast amputation, resection of ribs for empyema, cholecystotomy, removal of ovarian tumors, excision of glands, etc., and numerous other operations. Gynecological work has been extensive, the usual type, such as trachelorrhaphy, princorrhaphy, amputation of cervix, pessary fittings and insertions as well as a number of the other gynecological operations. With the various treatments such as paracentesis, lumbar punctures, aspiration of thoracic cavity, intravenous, intramuscular saline, the nurses are quite familiar. We have had occasion to carry out these treatments rather extensively. The skin cases have also varied considerably; a few of these are psoriasis, Tenia Vesicolor, Tenia Barbe, Impetiggo Contagiosa, burns, scalds, seborrheic dermatitis, Acne Vulgaris, Lichen Planus, alopecia diffuse and at least a dozen other varieties.

While we affiliate with the Kingston General Hospital for obstetrics, there have been in our hospital two full term cases; one abortion, one eclampsia, where the uterus was emptied

by version at six and a half months, one P.P. hemorrhage, and twelve cases of puerperal infection were admitted. For children's clinics we affiliate.

Of medical cases there have been cases of typhoid, pneumonia, secondary and pernicious anemia, carcinoma, measles, mumps, nephritis, acute and chronic, cystitis, Huntingdon's chorea, erysipelas, myxodema and hypothyroidism. There is in hospital a good case of elephantiasis.

A course in laboratory work is also given, including urinalysis, blood examination, water, milk and food tests. Each pupil is required to be present at two post-mortems, where the relative positions of internal organs are given and pathological specimens demonstrated.

With the increased population of mental cases in hospitals and in the homes, more of the mentally-trained nurses are required. Ordinarily the nurse who has not had the training will try to avoid these cases, and rightly so. They find them extremely difficult if at all able to carry on. Equally difficult are the alcoholic and the drug habitué. Such cases require the skill of the mentally-trained nurse, a training that is unfortunately omitted in many of our training schools. Nurses who lack this part of their training are unfit for such cases, as they do not know the symptoms to be looked for or the methods of treatment.

I think it is quite as necessary for the general hospitals to affiliate with the mental as vice versa, but I might also add that the standing of each and all training schools might be gone into. Some mental training schools may fall away below the required standard, just as do many other schools of the general and special hospitals.

The hydrotherapeutics with which nurses in mental hospitals are so familiar are practically unknown to many graduates of general hospitals. I remember some years ago in New York having a nervous patient in a private hospital in the city. The patient was ordered hydrotherapeutic treatment. I had never seen the treatment given. However, we were ushered to the basement, where a treatment was to be given, and I was to have the benefit of the demonstration. It was a frightfully crude arrangement of garden hose. My

patient objected. We then called many of the leading hospitals and inquired about the hydrotherapeutics. We were unable to find one which was in a position to give such treatment. The best they could offer was a room with bath.

The massage treatment, which is used so extensively in nervous cases, is given by the nurses who have received a complete course. In many hospitals a course is given, but when applied as a treatment the masseuse is called to the case. Our graduates are qualified masseuses.

The occupational therapy, in which the nurses receive a course, is also a great asset. To be able to interest a convalescent patient by basketry, bead work, etc., which are both useful and artistic, interesting to men, women and children, is also a very helpful part of the training. This form of treatment is now being generally recognized and is at last being applied in general hospitals.

Our school offers exceptional advantages by way of recreation and amusement. We have a splendid recreation room, where, during the winter months, concerts and dances are held weekly, medical gymnastics daily, etc.; a skating and curling rink where a bonspiel and carnival are held each season, and also the sleighing parties are much enjoyed. For the summer months there is boating, bathing, croquet, lawn tennis and bowling.

The nurses' home is most comfortable, consisting of reception rooms, diet kitchen, a laundry equipped with stationary tubs and electric irons; single and double bed-rooms, each fitted with the usual furnishings and also book cases, writing table, reading lamp and wardrobe; modern wash rooms and shower baths.

I am sure you will agree that we do not lack for the required variety of cases, which are necessary to come under the care and observation of the pupil nurse, and with this experience and the usual training in nursing procedures, ethics, etc., that the graduates have a training which should give them equal place among the graduates of any recognized training school.



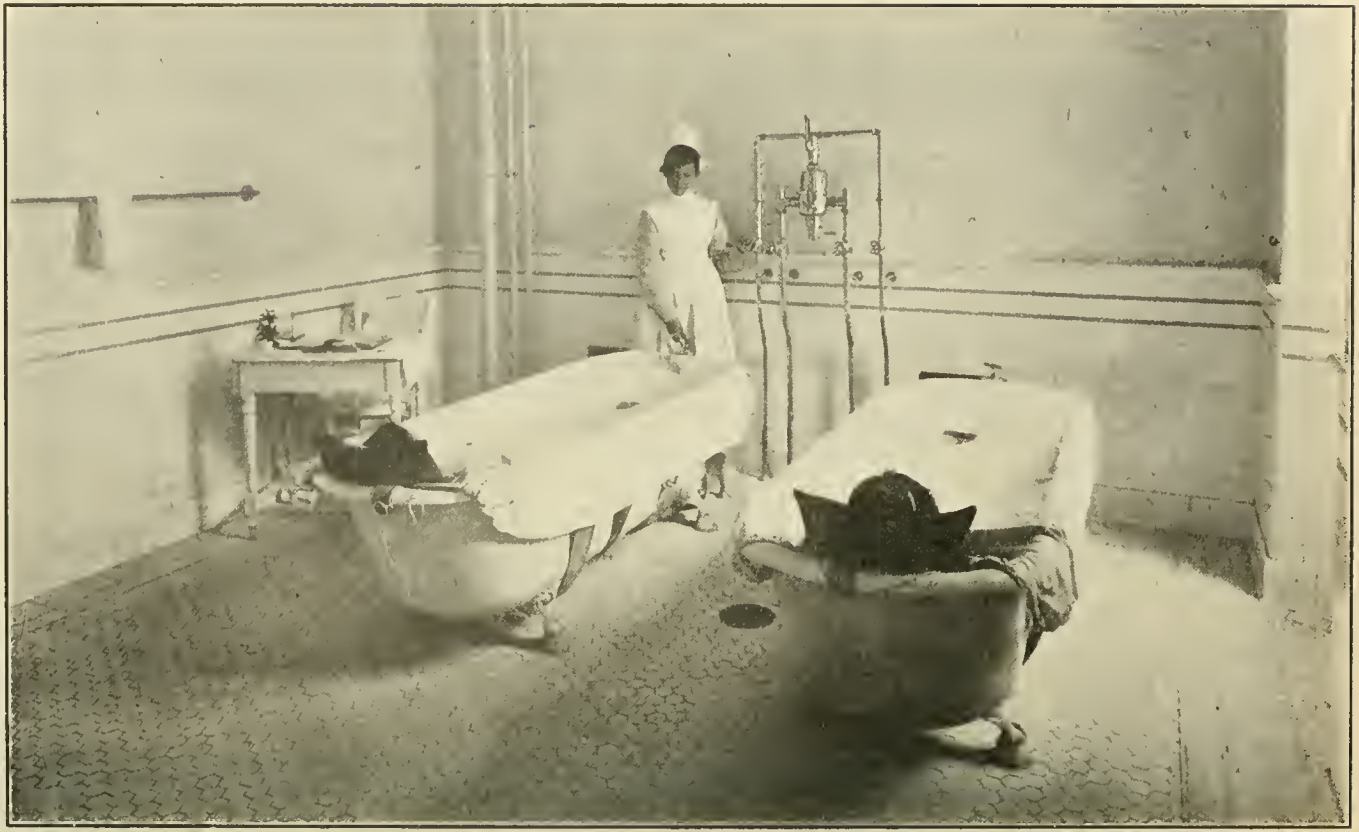
Corridor, Rockwood Hospital, Kingston.



Massage Room, Ontario Hospital, Kingston.



Operating Room, Ontario Hospital, Kingston.



Continuous Baths, Rockwood Hospital, Kingston, Ont.



Second Year Nurses With Instructors, Ontario Hospital, Toronto.

# Selected Articles

## DETERMINING THE PER CAPITA COST

SAMUEL G. ASCHER,*

SUPERINTENDENT, WICHITA HOSPITAL, WICHITA, KAN.

The following must be taken into consideration to arrive at this cost of per capita maintenance:

ADMINISTRATION.

Salaries and Wages of Officers and Clerks
Telephone Wages
Telephone Service
Stationery and Printing
Advertising
Uniforms
Miscellaneous

Total Administration.

PROFESSIONAL CARE OF PATIENTS.

Salaries of Physicians
Salaries of Nurses
Salaries of Training School
Salaries of Druggists
Wages of Orderlies
Supplies:

- Dressings and Bandages
- Drugs
- Medical and Surgical Supplies
- Apparatus and Instruments
- Rubber Goods
- Alcohol

*Mr. Ascher was in charge of the accounting department at Mount Sinai Hospital, New York, for a number of years, and also served as consultant for other institutions.

Uniforms
Anesthesia
Bottles, Boxes, Corks
Drug Sundries
Salvarsan
Suture Material
Clinical Thermometers
Adhesive Plaster
Transfusion
Mineral Waters
Wines and Liquors
Stationery and Printing
Slippers and Shoes
Total Professional Care of Patients.

RADIOGRAPHIC DEPARTMENT.

Salaries and Wages
Supplies
Total Radiographic Department.

PATHOLOGICAL DEPARTMENT.

Salaries and Wages
Supplies
Total Pathological Department.

DENTAL DEPARTMENT.

Wages
Supplies
Total Dental Department.

STEWARD'S DEPARTMENT.

Salaries and Wages
Supplies
Provisions:
Meat
Milk and Cream
Eggs
Groceries
Fruits and Vegetables
Poultry
Butter

Provisions—*Con.*

Bread
Canned Goods
Fish
Cakes and Crackers
Total Steward's Department.

HOUSEKEEPING DEPARTMENT

Salaries and Wages
Housefurnishings
Crockery and Silverware
Dry Goods
Furniture
Beds and Bedding
Total Housekeeping Department

LAUNDRY DEPARTMENT

Salaries and Wages
Supplies
Total Laundry Department.

GENERAL HOUSE AND PROPERTY EXPENSES

Real Estate and Buildings
Salaries and Wages
Supplies and Repairs
Paints and Varnishes
Total General House and Property Expenses.

HEAT, LIGHT AND POWER.

Salaries and Wages
Supplies and Repairs
Fuel
Gas
Total Heat, Light and Power

MACHINERY AND TOOLS.

Salaries and Wages
Refrigeration
Supplies and Repairs
Total Machinery and Tools

PLUMBING AND STEAMFITTING

Salaries and Wages
Supplies and Repairs
Total Plumbing and Steamfitting

INSURANCE

EXPRESSAGE

Where an institution has an out-patient department, to arrive at the cost of this department, in addition to the expense directly chargeable, it is important to allocate the overhead charges in other departments, such as superintendent's salary, office expenses, telephone expenses, general nursing, and such others as would have some connection with the out-patient department. The amount of percentage in these different overheads, will, of course, differ in various institutions, depending upon the amount of work done by each individual to the out-patient department, and to other departments.

In a hospital where there is no out-patient department, then, of course, the matter of actual cost of maintenance is a simple procedure, the most important part of which is to have every department given previously covered.

To arrive at the actual cost of the operating room per patient, in addition to the items directly chargeable, it is necessary to allocate the percentage of the salaries of the superintendent and training school, general expenses, and any other overheads that may come in contact with the patient. This same procedure applies to the radiographic department, pathological laboratory and the culinary department.

Before you can accurately ascertain per capita cost of maintenance for your different classes of patients (private room, private ward, ward and dispensary), it is necessary first to get the actual number of days consumed by these classes and then divide same into your total maintenance for these grades.

Now, how do we arrive at this actual maintenance figure? It is essential to allocate a certain percentage of expense covering each department, and this percentage should not be an arbitrary one; it should be carefully gone into, and the percentage depend upon the amount of work done by the various departments, and with this in mind, you will surely arrive at a very accurate per capita cost of maintenance.

The allocation of percentages with relation to the various departments is as follows, but, as previously stated, these percentages may be increased or decreased, depending on the amount of work performed:

| | Percentages | | |
|---|---|---|---|
| | Dispensary | Pvt. Patients | Wards |
| Administration | 10 | 40 | 50 |
| Salaries of physicians | Actual | Actual | Actual |
| Salaries of nurses, special | Actual | Actual | Actual |
| Salaries of druggists | 50 | 7/80 | 33/80 |
| Salaries of orderlies | Actual | Actual | Actual |
| Dressings and bandages | 10 | 50 | 40 |
| Drugs | 1/3 | 1/3 | 1/3 |
| Medical and surgical supplies | 10 | 50 | 40 |
| Apparatus and instruments | Actual | 30 | 70 |
| Rubber goods | 10 | 50 | 40 |
| Alcohol | 20 | 30% of bal. | 70% of bal. |
| Uniforms | 20 | 20 | 60 |
| Anesthesia | 5 | 60 | 35 |
| Bottles, boxes and corks | 2/3 | 1/12 | 3/12 |
| Drug sundries | 50 | 7/80 | 33/80 |
| Salvarsan | 75 | 5 | 20 |
| Suture material | 2 | 60 | 38 |
| Clinical thermometers | 20 | 40 | 40 |
| Adhesive plaster | 28 | 50 | 25 |
| Transfusion | .. | .. | Entire |
| Mineral waters | 20 | 20 | 60 |
| Stationery and printing | Actual | Actual | Actual |
| X-ray | 25/10 | 30/40 | 44/50 |
| Slippers and shoes | .. | .. | Entire |
| Pathological laboratory | 8 | 52 | 40 |
| Dental | 1/3 | .. | 2/3 |
| Housekeeping | .. | .. | Entire |
| Salaries to wards<br>Housefurnishings<br>Dry goods<br>Furniture<br>Crockery and silverware<br>Beds and bedding | 25 | .28⅛ | .46⅞ |
| Laundry | 10 | .40¼ | .49¾ |
| General house and property | 15 | 25 | 60 |
| Custodian | 4/6 | 1/6 | 1/6 |
| Corporation | 10 | 15 | 75 |
| Insurance | 15 | 25 | 60 |
| Expressage | 10 | 10 | 80 |
| Dispensary | Entire | .. | .. |
| Children's clinic | Entire | .. | .. |
| Social service hospital account | 70 | .. | .. |
| Training school | 8.30 | 13.20 | 78.30 |

—*Hospital Management*

## MODERN MEDICAL SERVICE ON AN OCEAN LINER

A ship's doctor has the most unique practice in the world. All nationalities, all classes, and nearly all creeds seek his advice and aid. He is at one moment a physician, at the next a surgeon, and not infrequently is he called upon to act as a dentist. The ship's doctor on a modern trans-Atlantic liner may have as many as three or four thousand people who in sickness or in accident look to him for aid. He is usually the sole recourse of the passengers and crew. In order to be a good ship's doctor he must possess an extra supply of quick and accurate judgment. He must be versatile, for his cases cannot be referred to specialists; the facilities of the great city hospital with its staff of physicians and surgeons are beyond his reach. At one moment he may treat a duke or a duchess and at the next an Armenian peasant. He may extract a tooth when the ocean is as calm as a mountain lake or in the midst of a terrific storm perform a delicate major operation. His life is not devoid of variety and is allotted a fair proportion of thrills.

There has been a great advance from the one room allotted the ship's doctor in the past to the modern ship's hospital. In those days the patients waited in the passage way outside the stateroom that served the doctor as both living room and office, and any place where the patient and doctor chanced to meet was a consultation room. Now the vessels of progressive lines contain one or more surgeries, an adequate number of hospital beds, dispensary, waiting room and consultation room. Facilities are condensed, for space is never wasted on the modern steamship, but they are complete, up-to-date, and well adapted to the service required.

In order to give the public a conception of the equipment and services that progressive passenger lines now provide for their patrons, an interview was secured with J. C. Beaumont, chief surgeon of the *S. S. Majestic* of The White Star Line. A new and excellent liner throughout, the *Majestic's* medical services and equipment are of an equally high standard of excellence.

Dental Equipment Complete

The staff is composed of chief surgeon Beaumont, assistant surgeon Jones, two trained hospital attendants for day duty, one trained hospital attendant for night duty, and two trained hospital female nurses. One of the latter is certified in midwifery and her special services are available at any moment of the day or night for any urgent case.

The major portion of the space devoted to medical services is in the forward part of the ship and though approximately under the bridge, it is more than 280 feet from the bow, an advantageous position, since this is the steadiest part of the vessel. Some little distance above the water-line and on the port side is the main surgery. The walls are covered with instrument cases and lockers that provide ample storage for supplies. The operating table and all appliances are modern and of the best type and construction. A dental chair and complete outfit is also provided. In calm weather ample light for the application of dressings and the like is supplied from large port holes. Directly opposite the surgery, on the starboard side of the ship, is the hospital. Easy and direct communication between the surgery and the hospital is provided by a passage way running across the ship from the surgery to the forward part of the hospital.

The hospital is in thirteen sections and is equipped with a total of sixty beds. Twelve of these sections containing forty-eight beds are devoted to general cases. The isolation section, twelve beds, for the treatment of communicable diseases, affords complete isolation, i.e., in conformity with the strict English Board of Trade regulations it is completely separated from the sections where the general cases are cared for and is provided with an uptake draught that is carried aloft and over the side of the ship. Bath room facilities are ample and linen closets commodious and well stocked. A second surgery that is practically a duplication of the one already described is located amidships aft. Directly aft of the main surgery is the surgeon's living room and office, a dispensary with an extensive and carefully selected stock of drugs, and a large and beautifully furnished waiting room for the patients opening into the the passageway leading forward from the passengers' quarters.

First and second class passengers are seen at any and every time by Dr. Beaumont. They come to the doctor's waiting room and are received for consultation in his office or when need arises they are visited in their state-rooms. The third class passengers are attended by Dr. Jones in the large surgery aft. The crew are seen in the forward surgery by the assistant surgeon. By means of this division all clashing of patients is avoided.

The out-patient department is open twice a day, in the morning at nine and in the evening at five-thirty. During the travelling season the number of visits and consultation per day varies from forty to seventy.

### Operation on High Seas

During the five years that Dr. Beaumont was surgeon on the *Olympic* he performed 156 operations under general anesthesia and since the *Majestic* was commissioned in May, fifteen more operations have been performed. The most remarkable feature is, in view of the many newspaper stories and communications to medical journals relative to the difficulties of operations at sea, that at no time has the ship been stopped or even slowed down during any operation. Dr. Beaumont stated that the navigating officers were never told when an operation was to be performed and usually learned of it after its completion when the information became a matter of ship's news. We believe this to be a very unusual record and it surely differs from the current stories of the necessity for stopping vessels during surgical operation and pouring oil on the troubled seas.

In a later conversation with one of the officials of the line this record was mentioned and the following story was told. A little over a year ago this official was crossing on the *Olympic,* on which Dr. Beaumont was surgeon at the time. A severe hurricane was encountered, so severe in fact that even the monstrous *Olympic* was, in the words of the narrator, "knocked down." A heavy steel bulkhead door broke loose and fatally injured one third class passenger and crushed the foot of another. Dr. Beaumont wanted to amputate, but the immigrant understood very little English and could not be impressed with the seriousness of his condition. Blood poisoning set

in immediately and a few days later while the hurricane was but little abated it was seen that an amputation was imperative. The doctor, putting his hand on the leg above the knee, delivered an ultimatum, "I cut, you live. No cut, you die." This time the injured man was convinced and with the ship rolling and pitching in the storm, the leg was amputated with speed equal to that attained on a stationary table that is so often considered essential. Four days later the patient was taken ashore. The narrator concluded, "Probably Dr. Beaumont didn't tell you that." He didn't. He gave the impression that the difficulties under which he practised were no difficulties at all.

### Trouble Only Once

During these nineteen years, Dr. Beaumont stated that only once had any operation given him any trouble. In this case some splinters of steel were embedded in the man's eyeball. The doctor had considerable difficulty in extracting them because of the roughness of the sea and though for a time he thought it might be necessary to ask the ship to be slowed down, he finally succeeded in removing the splinters from the eye without any change in the ship's course or headway and the patient had an uneventful recovery.

The *Majestic* is an extremely steady ship and cases of seasickness are at a minimum. Dr. Beaumont said that in seventeen crossings made in her since she was put in service, he has had but two cases that have given him even a passing moment of worry.—*Nation's Health.*

## COST AND CONSUMPTION

Since first mankind tasted the evil of waste and the reward of thrift many sages have prescribed for us the sure way to economy. From the standpoint of the hospital administrator, strict economy of late years has been the essential feature of every institution dependent for its maintenance upon voluntary support—and, indeed, rightly so, for are we not trustees of the money which the public subscribe, and responsible to them for a good account of our stewardship?

In spite of this fact, however, we are forced to realize, from a close study of the costs of several hospitals, as set forth in their annual reports, that the widely varying figures indicate either parsimony on the one hand, or extravagance on the other.

Hospital committees are wisely giving close attention to the matter of economic buying under all heads of expenditure. We read and hear much in favor of the standardization of articles, and of the co-operative purchase movement, both at home and abroad—an admirable idea and one which has been the means of saving many thousands of pounds in the United States and in Australia.

No efforts are being spared to bring down costs to a minimum, and it is now customary to invite competition for all contracts; but are not some of us stopping short of the ideal by not further pursuing our inquiries into the next stage, *i.e.*, consumption?

Whilst it is a fact that the difference in prices paid by similar hospitals for exactly the same commodities may leave something to be desired, such discrepancies are fast disappearing.

In the matter of actual consumption, however, the same general uniformity of results is not so apparent. An increase of one penny per pound in the cost of tea or bacon causes consternation in the hearts of a hospital committee who remain unmoved (through ignorance of the actual facts) by waste which sometimes prevails in the use of these and other items—a waste which, if remedied, would more than counterbalance the effect of a slight increase in price.

It may be that a hospital is using more than twice the quantity of meat necessary for the proper feeding of its patients—particularly in the case of female wards—yet this is hidden in the average cost per patient per day, because the total consumption divided amongst men, women and children would result in a figure which might justifiably be considered a reasonable one if the actual figures of consumption are ignored.

Two hospitals treating the same type of patient under similar conditions find that the average daily cost varies from 10*s.* 6*d.* in the one case to 8*s.* in the other. The remedy does not lie in the preparation of elaborate returns of costs, which are for the most part retained in the secretary's office, but in a thorough investigation into the consumption of every department.

The figure of cost by itself is entirely unreliable and misleading. In many cases it gives those responsible for the conduct of the hospital a false sense of security, and cannot be regarded as a reliable criterion of successful administration—that is, if the question of cost alone is going to remain uppermost in the thoughts of the executive.

Inquiries as to the actual consumption of various articles compared with the number of patients, nurses, etc., often reveal interesting and surprising information. In some cases, for instance, it may be found that one ward containing thirty beds is using two lbs. of tea daily, whereas a neighboring ward, under similar conditions, is only using one and one-half pounds per diem. This extravagance on the part of one ward is lost in the total figure of cost per patient per day, and, as a consequence, the careful sister receives no incentive to further economy and the wasteful one no check to her extravagance.

Numerous parallel examples might be quoted where the good effects of economical buying are more than counterbalanced by excessive consumption.

It will thus readily be seen that something more reliable than a bare statement of cost is necessary. If we go a step farther and furnish the members of the hospital staff with a comparative return showing how their consumption of drugs, food, gas, laundry, etc., compares, ward by ward and department by department, we engender a spirit of healthy rivalry and competition. In some hospitals it is the custom, when obviously excessive requisitions are made, to report the matter to the matron, who in turn questions the offending sister; but the sister has always her excuses—justifiable or not—for her actions, and will never plead guilty to carelessness or waste. In addition to this, the consumption, after a slight decrease, gradually creeps up again to its former level.

If the amounts consumed by one individual or department were circulated for comparison with the consumption of other departments in the institution, the administrator at once wins the co-operation of the actual consumers of the hospital's money, and it is only by this means that a greater degree of co-ordination amongst the staff of the hospital will be secured.

There seems to be too much competition and isolation amongst the hospitals in the country, and a noticeable lack of a genuine desire to help each other. Each hospital is too much of a separate unit struggling along in the darkness and fighting its own battles more or less in ignorance of the doings of similar institutions. The result is that each one has to learn economy in the school of experience—an efficient, but admittedly an expensive one. The same lack of co-operation and co-ordination exists to a greater or less degree inside the hospitals themselves. There is no connecting link between the various spending departments; the dispenser, for instance, whilst he probably knows the sources of waste, has no machinery ready at hand with which to deal adequately with the situation; the nursing staff, if they knew in which direction money was being needlessly spent, would be keen to remedy the fault.

When the efforts of every one, from the chief executive officer downwards, are co-ordinated, and this co-ordination is based on sound knowledge, then only can we say that all members of the staff are striving for the same end, *i.e.*, to produce the greatest degree of efficiency with the minimum of cost.

The Voluntary Hospitals Commission will have rendered an excellent service to the country if it brings about closer co-operation amongst all hospitals and abolishes the expensive methods consequent upon the present system of isolation.—*The Hospital Gazette.*

---

## CONSIDER THE BATH-ROOM

The family physician or health worker who does not inspect the bathrooms of his clientele is like the detective who fails to visit the scene of the crime. He has neglected one of the most important pieces of evidence in determining the physical

and mental characteristics of his patient and family, and he has thereby deprived himself of much contributory diagnostic and therapeutic aid.

The dark and gloomy bathroom of the early United States Grant period of architecture, with cracked linoleum floor covering, primitive and unfriendly tin tub encased in coffin-like walnut, with pan toilet having auxiliary man-power and their cogenor, the dwarf washbasin, is now almost extinct, although a few museum specimens may still be found in boarding houses. It has been crowded out by the bathroom of to-day, a small cubicle having a solid door at one end and a ground-glass window at the other. When both are closed, it is an engineering mystery how ventilation occurs. This narrow cell usually contains a tub, a washstand, a toilet of variable noisiness, and a medicine case with a mirror in the door. There may be a shower-head and possibly there is a hip-bath. Once in a long time a bidet is found, but as a people we are apt to mistake the purpose and morals of this piece of exotic plumbing and few of us know whether to face in or out when using it. Rarer than the dodo is the bathroom which contains a separate fixture for dental ablutions. The floor and the wainscoting are of glistening tile and the walls above are of stippled whiteness to assist illumination. Dazzling white is the prevailing color note. The pipes, faucets and fixtures are of gleaming polished metal; white enamel prevails and, as it leaves the hands of the builder and the plumber, the modern bathroom is a thing of virginal purity and luxurious comfort.

But oh, to what uses it is to be put! How its simple sweetness is to be debased! The medicine case with lovely shelf of painted white or polished crystal is to be packed with proprietary remedies, hair dyes, tonic for the canary, worm-seed for the Pekingese, corn removers and *spiritus juniperi* for synthetic purposes. The overflow of cuticle creams, freckle removers, and poison-ivy lotions almost crowds the whirling spray and the nasal syringe from the top of the case, while on the dado as a frieze half-filled prescription bottles, bearing ancient dates, alternate with laxatives, cathartics and purgatives, punctuated with headache tablets, antiseptic collodion, codliver oil and mange cure. Alopecia ointments rub shoulders with anti-fats; adhesive plaster and pipe-clay fraternize; tooth

pastes and shaving creams, cough syrups and fish-food, collyrium and cosmetics struggle for a foothold. The back of the door is garnished with a fountain syringe and a hotwater bag. Behind the tub is a small washboard, while underneath is a bed-pan, a small electric stove, and some shoe brushes. In the corner is an ironing board, while on the window sill, a cocktail shaker, a cork screw and a lemon squeezer are attractively displayed. It usually requires only a cursory search to discover a dusty catheter and a blunt-nosed glass syringe.

To the observant, the whole room is an open book wherein he may read the inmost details of those using it. It is the smallest, but the most important room in the house. The bulk of humanity is conceived, born, lives a third of the life-span, and dies in the bedroom; the kitchen, with the assistance of the dining-room and the down-town office, keeps us alive, but it is in the bathroom that the most intimate acts of existence are performed. It is the one place in the world where absolute privacy may be obtained, where the inhibitory influences of society may be thrown aside, and hence it plays an important rôle in the acquirement by the child of habits which may become vices in the adult. It is the place of solitary tippling, the haven of addict, and the rendezvous with death for the suicide. It may be the distribution centre for communicable disease since it is the one room in the house to which every member of the household is obliged to go. The row of tooth brushes neatly spaced so as to facilitate contact between them, the washbasin into which the entire family expectorates after tooth brushing, the towel rack overcrowded with used, but not thoroughly soiled towels, the common drinking glass—these facilitate the familiar spread of infections. It is the only room to which the visitor may not be shown save on request and, therefore, the one room about which there is none of that family pride which makes for cleanliness and order. The trouble with the bathroom does not lie in the designer and the builder, but with those who use it.—*Nation's Health.*

## AFTER-CARE OF INFANTILE PARALYSIS CASES OF THE 1916 EPIDEMIC IN BROOKLYN

Horace G. Dunham, Brooklyn (*Journal A.M.A.*, Jan. 27, 1923), urges that, during an epidemic of infantile paralysis of any size, children with obscure indisposition should be kept at rest in bed for several days until the exact nature of their conditions can be determined. When paralysis supervenes, it usually appears within a very short time after the initial upset, the average in a series which was investigated being three days after the first manifestation of illness; but often the paralysis comes on twenty-four or forty-eight hours after, so that the patient with a malaise of no consequence need not be incapacitated over a long period of expectancy. Early, neglected patients should never be ignored in treatment later, regardless of the degree of involvement. It is essentially a disease of childhood, therefore in every obscure, acute illness the diagnosis of infantile paralysis should always be a mental reservation, since sporadic cases occur in the community every year. Obviously, to obtain the best results and maximum functional return, these patients must have intelligent care from the outset of their illness. Correct treatment for a definite stage applied at the wrong time is far worse than none, just as surely as exercise pushed to the point of fatigue and muscle exhaustion is distinctly harmful.

---

## THE MENACE OF THE DIAGNOSTIC THROAT CULTURE IN DIPHTHERIA

In the interests of clear medical thinking and of our patients, Jesse G. M. Bullowa, Reginald C. Hardman and Harry R. Litchfield, New York (*Journal A.M.A.*, Jan. 27, 1923), emphasizes the fallacies that may result from the throat culture diagnosis of diphtheria, and the consequent delay in making the diagnosis from a laboratory report instead of from the clinical picture. The dangers of depending on the diagnostic culture are presented both statistically and by the report of individual cases.

## THE SIGNIFICANCE OF LYMPHATIC INVOLVEMENT IN INFECTIONS

Particular attention is directed by William J. Mayo, Rochester, Minn. (*Journal A.M.A.*, Jan. 27, 1923), to the fact that not all enlarged glands associated with cancer, especially in septic situations, such as the gastro-intestinal tract, are due to cancer. The glands may enlarge if a benign lesion, such as a chronic ulcer, precedes the cancerous change. Chronic sepsis involving the glands is not infrequent; the glands may become so extremely hard as to appear malignant. This condition is quite constant in cancer of the large intestine. Post-mortems show that half the patients who die from cancer of the colon have no cancerous involvement of the lymphatic glands at the time of death, although the glands may be greatly enlarged from sepsis. I mention this because I have operated on many patients whose condition following exploration has been pronounced inoperable on account of glandular involvement, and I have been able to resect and definitely to show that the glands were septic, not cancerous. These patients have remained well for long periods. Microscopic examination of the glands will be necessary in many cases to decide the question.

---

## SPECIFIC TREATMENT OF HAY-FEVER DURING THE ATTACK

In three cases of autumnal hay-fever, with sensitization to short ragweed, reported by Warren T. Vaughan, Richmond, Va., (*Journal A.M.A.*, Jan. 27, 1923), the patient had been desensitized by the routine commonly followed, both parenteral injection and nasal installation being employed. One patient developed hay-fever in a very severe form; while two were decidedly improved but not symptom free, after the onset of the pollen season. In all three cases, symptoms cleared up almost entirely, following daily subcutaneous injections of small amounts of ragweed pollen extract. A fourth patient, a boy who had developed hay-fever for the first time and had no preventive inoculations, did equally well following daily sub-

cutaneous treatment. The frequency of inoculations was gradually reduced in this case, the patient remaining greatly improved. According to the method proposed, patients presenting themselves for the first time during the pollen season, and without previous treatment, may be treated by specific measures, with considerable hope of relief.

---

## A NOTE ON THE TREATMENT OF SYPHILIS WITH GALYL

Lloyd Thompson, M.D., Hot Springs, Ark.

During the past seven years, salvarsan and its substitutes have taken a permanent place in the therapy of syphilis. By the administration literally of millions of doses of salvarsan, no doubt of its efficacy in all stages of syphilis exists, and the modern physician would no more think of treating a case of syphilis without it than he would of treating a case of diphtheria without antitoxin.

Salvarsan, however, is a patented preparation, and as there have been times during the past two years and a half that this product has not been available in this country, reliance on the treatment of syphilis has been placed on one or another of its substitutes. Therefore, when new substitutes for salvarsan appear, which bear the stamp of approval of eminent syphilologists, it seems desirable to give them a fair trial, especially if these products can be marketed cheaper than salvarsan, or if any claims to superiority over the latter drug are made.

One of these substitutes which has received but scant notice in this country, but which seems to deserve a better acquaintance, is galyl. This drug was discovered by Mouneyrat, of Paris, and was named galyl after Galen, who first noted the properties of arsenic.

Galyl, or tetraoxydiphosphoaminodiarsenobenzene, is a yellow or greyish-yellow powder, containing 35.3 per cent. arsenic and 7.2 per cent. phosphorus. It is odorless, tasteless and insoluble in water, alcohol, ether and benzine. It is, however, readily soluble in a dilute solution of sodium carbonate, forming a yellow or yellowish-brown liquid. The

ampules in which galyl is dispensed contain a small quantity of sodium carbonate so that the solution takes place readily upon the addition of distilled water. It is, therefore, as easily prepared for injection as neosalvarsan. Like its prototypes, salvarsan and neosalvarsan, galyl has been administered subcutaneously and intramuscularly, but owing to the pain and occasional necrosis, these methods have been abandoned with this drug also, and intravenous method is the one of choice.

According to the majority of workers who have employed galyl, it is at least as efficacious as salvarsan or neosalvarsan, and most investigators state that it is less toxic. Thus, Beurmann, Mouneyrat and Tanon assert that the tolerance for galyl is greater than for any of the other arsenical compounds, which have, up to the present, been administered intravenously. Brumor states that it is less toxic than salvarsan.

Foerster reported nine cases of active syphilis injected with galyl and reached the conclusion that it is superior to salvarsan and neosalvarsan with regard to its effect upon so-called primary and secondary lesions. Others who have reported favorably upon galyl are Spence, Dudley, Troisfontaines, and Thomson. My experience with galyl has been limited to sixty injections administered to twenty-eight patients and on account of the small number of injections, definite conclusions cannot be drawn; therefore the object of this note is not to report upon its use, but merely to bring it to the attention of the profession. I should like to say, however, that the results with galyl seem to be as good as with other arsenicals and in my limited experience there have been absolutely no untoward symptoms following its injection.—(*American Journal of Syphilis.*)

---

## A LOCAL ANESTHETIC, NON-IRRITANT AND OF LOW TOXICITY

Carroll W. Allen, M.D.

"The accepted local anesthetics of to-day, of which cocaine is the type, exert an influence through their paralyzing actions upon all protoplasm, and this action is central as well as local. The constant effort to improve our methods and produce an agent having less central toxic action while retaining its local effect has led to vast improvements. Novocain representing the

highest attainments in this direction at the present time, having largely displaced many of the older agents. . . . With the introduction of this agent (Novocain) the ceaseless efforts and zealous endeavors of the numerous workers in the field of synthetic anesthetics has at last been crowned with a very decided degree of success in obtaining an effective agent absolutely non-irritant and of low toxicity, which qualities are of vital consideration for the general use of a local anesthetic. Some of the many substitutes for cocaine already introduced have exhibited advantages in one or the other direction, but none of them have fulfilled all of the prime considerations, particularly those of lack of toxicity and irritating qualities, which in some of these agents have been so marked that their strong solutions produce almost a corrosive action. The absence of irritating qualities in Novocain is most marked, even when applied in powder form or concentrated solution to sensitive wounds in the most delicate tissue and on such surfaces as the cornea. . . . Injected within the tissues, even in strong solution, Novocain exerts but little or no influence upon the vasomotors of the part; its injections are without pain and seem to be absolutely free from all irritation; no after-pain inflammation, hyperemia, or induration has been observed to follow its action. It is further claimed for Novocain that where it is necessary to make repeated use of this agent, no danger of the formation of a habit need be anticipated. The remarkably favorable action obtained by the combination of adrenalin preparations with Novocain, as well as its total absence of all irritation, is well shown in the following experiments of Professor Braun. . . . The conclusion of Braun's observations are that Novocain actually increases the action of adrenalin, while Biberfele, after studying the same subject, states that Novocain is the only local anesthetic which does not arrest or weaken the action of adrenalin. . . . . After a rather extended experience, including a large number of cases embracing the entire field of surgery in which this agent has been almost exclusively used, we have failed to note a single case in which there has been any unpleasant local or constitutional action. We, therefore, feel thoroughly justified in unqualifiedly recommending it as the safest, most reliable, and satisfactory of any local anesthetic agent yet introduced. —*Local and Regional Anesthesia.*

## THE CHOICE OF PYELOGRAPHIC MEDIUMS

Twelve per cent. sodium iodid has been found by Roger C. Graves and Leo M. Davidoff, Boston (*Journal A.M.A.*, Jan. 20, 1923), to be perfectly satisfactory for the making of pyelograms. It is isotonic with 8.2 per cent. sodium bromid. Compared with sodium bromid, therefore, its use involves a reduction in hypertonicity from that of twenty-five per cent. solution to that of an eight per cent. solution. It is not claimed that serious damage follows the clinical use of twenty-five per cent. sodium bromid, but that it is potentially an irritant and that its use is unwise. Its hypertonicity, especially in the presence of increased pressure, may cause sufficient edema of the renal pelvis to occlude its outlet and so produce the picture of colic, chills and fever which too often follows pyelography. This is especially true when the amount introduced is large and when the fluid injected is retained for any considerable length of time. Certainly, bilateral pyelograms with this solution are inadvisable, if, indeed, they are ever warranted.

---

## PNEUMOLITH OR BRONCHOLITH

Herbert Fox, Philadelphia (*Journal A.M.A.*, Jan. 20, 1923), explains his case on the basis of an old calcified tubercle ulcerating through a bronchus or as a stone originating in a bronchus. From the roentgen-ray report, the former is more probable.

---

## SOUND INVESTMENTS

The following investment suggestions are taken from G. A. Stimson & Company's recommendation to a subscriber of the Toronto *Saturday Night*, and appeared in the Gold and Dross column of that paper on January 27th.

A. For an investor who feels uneasy unless all his investments are absolutely guaranteed by the Dominion of Canada:

1. Dominion of Canada Grand Trunk Pacific Railway, 3% Bonds due 1962 at a price of 65. Principal and interest when due payable at the holder's option in Canadian, American or Sterling funds, at par of exchange.
2. Dominion of Canada Guaranteed Canadian Northern Ontario Railway, 3½%. Fully Registered Debentures due 1961, at a price slightly under 72. Interest payable at the holder's option in Canadian or Sterling funds at par of exchange.

A choice between these two securities is difficult. Both are good, with the advantage slightly in favor of the first which gives the greater par value, a fair income per annum, plus an assured fifty per cent. increase in capital at maturity with a ready market value that should increase year by year. This is, in all probability, the best investment for such a client.

B. On the other hand, we ourselves would select the following securities, which are quite sound, being an obligation of the Dominion Government as owners of the Canadian National Railway. The interest on these securities is payable semi-annually in Canadian dollars.

1. Canadian National Railway four per cent. Fully Registered Perpetual Debentures originally issued by the Canadian Northern Ontario Railway, secured by a mortgage on the Dominion Government's Railway from Toronto to Ottawa, now obtainable at a price of $72.10 to yield 5.55 per cent. interest, per annum. This is a good, safe investment that, in addition to giving a high annual interest return, is almost certain to steadily advance in market value.
2. Canadian National Railway four per cent. Fully Registered Debentures due 1939, originally issued by the Duluth, Winnipeg and Pacific Railway, secured by a First Mortgage on the Dominion Government's Railway from the International Border to Duluth; a good paying line. At the low price of 77.04 yielding 6.25 per cent., these debentures are a splendid investment.

# Book Reviews

*Medical Diagnosis for the Student and Practitioner.* By Charles Lyman Greene, M.D., St. Paul. Fifth edition, revised and enlarged with fourteen colored plates and 623 other illustrations. Philadelphia. P. Blakiston's Son & Co., 1012 Walnut Street.

This is one of the most complete works on medical diagnosis that has been received by our Review Department in years. We hearty congratulate Dr. Greene upon his efforts to give the profession a book through the study of which they need seldom go astray in their diagnoses. The book is a large and handsome volume of almost 1,500 pages. The fifth edition has been thoroughly revised, many very important additions having been made, rendering the volume one of the most modern so far in print. The author lays great stress upon the early diagnosis of heart conditions and resultant easy treatment. The chapters on the roentgen diagnosis of cardiac disease, myocarditis, and particularly the one devoted to arterio sclerosis are most instructive and alone worth the price of the volume. We tender our congratulations to the publisher upon the mechanical excellence of the book. It is most creditable.

---

*The Great War as I Saw It.* By Canon F. G. Scott, C.M.G., D.S.O., late Senior Chaplain, First Canadian Division, C.E.F., author of "Later Canadian Poems" and "Hymn of the Empire"—F. D. Goodchild Co., Publishers, Toronto.

This is a book of the most intense interest. It is the actual experience of one who was on the ground, so that every statement is without question. It is a record of what Canada did and a record of which she may well be proud. Once a reader starts this volume he will have difficulty in laying the book down till he finishes. Canon Scott is to be heartily congratulated in placing so fine a volume at the disposal of Canadians, and we do not hesitate to recommend it to one and all.

*A Simple Treatment for Tuberculosis* by Owen F. Paget, M.D., Perth, Western Australia, With Introduction by J. George Adami, M.D., F.R.S., and Prefatory Remarks by W. P. Birmingham, B.A., M.D., Hon. Surgeon, Public Hospital, Fremantle, Western Australia. Constable & Company, Limited, London, Bombay, Sydney. 1923. Price 5/- net.

This is a very stimulating little work, highly original, written by a very close observer intensely interested in the purely clinical side of his experience with a series of one thousand or more cases occurring in a country practice among poorer patients in Australia, and among the Australian troops in the Great War. The introduction by J. George Adami, M.D., F.R.S., formerly Professor of Pathology in McGill, is very intriguing. The very evident sincerity and unselfish earnestness of the writer engage the goodwill of the reader in spite of one's hesitancy to follow him quite to the lengths to which he goes as to the efficiency of his methods. He will probably be found to be right in principle, but one is reminded of the old saying that, in Medicine, if one looks hard enough for a thing, one will always ultimately find it.

# Obituary

## DEATH OF COLONEL DAVID W. McPHERSON, C.M.G., IN 52nd YEAR

In the death on January 3rd, of Col. (Dr.) David William McPherson, C.M.G., F.A.C.S., Canada has lost one of her sons who rendered conspicuous service to the Empire in the great war. Col. McPherson will be remembered best as officer commanding the great Canadian hospital at Orpington, through which so many wounded soldiers passed. But to his credit also Col. McPherson had a period of long service in the line with an ambulance unit.

Five weeks before his death, Col. McPherson was taken ill. He was removed to Wellesley Hospital when the illness became more serious. Despite skilful medical attention, Col. McPherson failed to recover.

# The Canadian Journal of Medicine and Surgery

A Journal published monthly in the interests of Medicine and Surgery

VOL. 53 TORONTO, MAY, 1923 No. 5

## Editorial

### British Medical Association - A Canadian Branch

Twenty-five years ago efforts were made by some of its Toronto members to establish a branch of the British Medical Association in Canada. For some reason the proposal did not meet with a sufficiently hearty acquiescence to result in the formation of a branch here. The subject is again to the fore.

The British Medical Association, during the last few years, has had under serious consideration the question of its relations to the members of the profession in the Empire outside the United Kingdom. There are very prosperous branches of the association in Australia and New Zealand, and also a branch in South Africa. Arrangements have recently been made for increasing the autonomy

of the first-named two and of strengthening the South African Branch. New branches have been established in several of the British Dependencies; and also, even in certain foreign countries where there are considerable numbers of British practitioners, notably China and Mesopotamia.

In Canada there exist (on paper) several branches of the association; here, alone in the Empire, the connection of the profession with that in the Mother Country grows feebler instead of stronger. This ought not to be the case.

It will be remembered that two very successful meetings of the Parent Association were held in Canada—one in Montreal in 1897, under the presidence of the late Dr. Thos. Roddick; the other in Toronto in 1906, with the late Dr. R. A. Reeve in the presidential chair. Since then the Canadian profession has taken a goodly share of the burden of the Great War along with their brethren overseas. With these three strong points of contact the medical bond between Canada and Great Britain should become stronger instead of weaker.

It is quite logical, therefore, that there should be some tangible expression of this union of spirit and purpose. To this end we heartily agree with the efforts of those on both sides of the Atlantic, who are desirous that some steps be taken at once to link up the medical profession there with the profession here, and in such a way, while leaving absolute autonomy to the profession in Canada, (as in other parts of the Empire), in the conduct of its

own affairs in its own way, as will provide an official bond of practical good fellowship. The profession should not be content to see the two branches of the British profession drift apart without making a strong effort to prevent it.

It will be easily possible, if the matter is undertaken with hearty good will, to arrive at some arrangement which will be of great benefit to the whole British Medical profession. Such a liason will be welcomed by members of the profession in all the outlying portions of the Empire; even more so, we believe, by our brothers in the Old Land.

It would be most appropriate for all our *confrères* in Canada to consider this splendid prospective alliance. The subject might well come up for discussion in every county, city, and provincial medical society throughout the land. The Canadian Medical Association ought to be in the van in this movement. A favorable pronouncement by that body will be heartily endorsed by every other body of medical men from coast to coast.

If not too late, we would like to see our Canadian Executive invite a committee of the British Medical Association to our meeting in June, with the object of getting its point of view of the *rapprochement*. And, we feel sure, the British Medical Association would extend a very hearty welcome to any representatives the Dominion organization might send to its coming meeting next summer, with a view of furthering British medical solidarity.

## Medical Meetings

Now that the time of year is arriving when the meetings of the Provincial and Dominion Medical Associations are to be held, attention must be called to their importance.

The work of these bodies usually devolves on a comparatively small handful of men, who seldom get all the credit for the good work they do. Sometimes they come in for a good deal of criticism.

The blame, if any, for the shortcomings of these voluntary associations of medical men, may be placed on the men who stand off and do nothing. The inactivity and apathy of many of our *confrères* is a serious menace to the efforts of these representative organizations.

There are many enemies to fight, the chiropractors, osteopaths, the so-called scientists, the bolsheviks, and Reds ( a good many of whom are in Canada), the anti-vaccinationists, *et sui generis*. Besides combatting these enemies and frustrating their pernicious designs, there is much positive and progressive work to do—in the advancement of the public health through the prevention of disease and the encouragement of measures for good health. Much has to be done to improve the medical teaching of the undergraduate and to inaugurate measures for more post-graduate work. Men become rusty and get into ruts. They must be encouraged to get away and brush up, and efforts should be made to place post-graduate instruction within their reach. The Ontario Medical Association has

made a start in this direction by periodically sending special lecturers out into the province to discourse on their specialties.

To permit of these advances being furthered, money and time and effort are required. It behooves all our brethren to join our provincial association, and the local society as well, pay their fees promptly and regularly; and then attend the meetings and take an active part in the proceedings. Those who do not read papers, should exhibit patients, report cases, or take part in discussions. There are also the economic phases of our profession, which receive too little attention. These and many other topics are eligible for free discussion for any body of medical men.

To bring this more ideal state of affairs into existence, it is important that harmony reign among ourselves. The day has gone by when men in the smaller (or larger) communities shall allow themselves to become estranged by petty jealousies, strifes and bickerings. A get-together policy is the order of the day. Let the smaller communities begin. Then let the smaller unite in the larger—the county or county-group. Then the county-group should centre in the Provincial; the Provincial in the Dominion; and the various Dominion groups in the all-British. Then the all-British with representatives of all the other countries should form a world conference. Let the doctors show how a League of Nations can be worked out.

Meantime, it is up to each individual practitioner to do his duty and to *join up*.

## Memories and Portraits

A visit to the Academy of Medicine, and to the University in Toronto, awakens in the mind of the reflective observer a pleasurable interest and a mild melancholy. Here one sees splendid old engravings in copper and steel of the Fathers of Medicine. More recently there have been hung fine portraits in oils and splendid large photographs of well-known practitioners of medicine who, during the last seventy-five years, have successfully practised medicine in Toronto, and at the same time have worked for the upbuilding of the profession.

Within the past few years paintings of Osler, I. H. Cameron, Alexander McPhedran, J. Algernon Temple—to mention but four—have been painted by well-known artists and now adorn academic walls in the city of their labors. We must confess a sense of disappointment in so far as the likeness to some of them (particularly one) is concerned; but in all, it must be admitted, the artists have caught some of the life-like predominant features and expressions of the subjects—in at least some of their sitters' moods.

We gladly commend students of these older worthies who have clubbed together to finance the costs of these portraits. We hope that some of the less popular professors, lecturers and practitioners of the past generation who did work equally worthy to that done by those already honored, will also have their pictures placed in our academies and universities.

## The Gold-Headed Cane

Interest is again awakened in the renowned "Gold-headed Cane" by the publication of a new edition in London, under the editorship of George C. Peachey. It was only in 1922 that the Oxford University Press put out an edition with an introduction by Osler.

First editions of "The Gold-headed Cane" are not now easily obtainable. We know of but one or two in Toronto. Second editions are also fairly rare. The writer has one in his home—extra illustrated.

The third edition, we believe, was published early in the last century by William Carmichael, several years after Bailey, the last carrier of the Cane, died. It may be remembered that Bailey's widow gave the Cane to the Royal College of Physicians in whose building it is now housed in a glass case.

The book is of absorbing interest to all medical book lovers. We predict the new edition will be quickly bought up.

# The Canadian Journal of Medicine and Surgery

Toronto ——— Canada


## Board of Editors


THE PRINCIPLES OF SURGERY AND SURGICAL PATHOLOGY:

Irving H. Cameron, M.B., LL.D., F.R.C.S., England; F.R.C.S., Edinburgh; F.R.C.S., Ireland; F.A.C.S.; Emeritus Professor of Surgery, University of Toronto.

PRACTICE OF SURGERY:

N. A. Powell, M.D., C.M., Emeritus Professor of Medical Jurisprudence, University of Toronto. Herbert A. Bruce, M.D., F.R.C.S., Eng., Associate Professor of Clinical Surgery, University of Toronto.

HOSPITAL ADMINISTRATION:

J. N. E. Brown, M.D., Toronto, former Superintendent Toronto General and the Henry Ford Hospital, Detroit; A. K. Haywood, M.B., M.R.C.S., L.R.C.P., Eng., Medical Superintendent, Montreal General Hospital.

OPHTHALMOLOGY:

J. M. MacCallum, M.D., Chief, Department of Ophthalmology, Toronto General Hospital; Walter W. Wright, M.B., Assistant in Ophthalmology, Toronto General Hospital.

NOSE, THROAT AND EAR:

Perry G. Goldsmith, C.B.E., M.D., Chief, Department Ear, Nose and Throat, Toronto General Hospital; J. K. Milne Dickie, M.D., F.R.C.S., Edin., Ottawa.

PEDIATRICS:

Augusta Stowe Gullen, M.D., Toronto; Alan Canfield, M.D., Visiting Physician, Hospital for Sick Children, Toronto; George Smith, B.A., M.B., Associate Physician, Hospital for Sick Children, Toronto. Helen MacMurchy, M.D., Chief, Division of Child Welfare, Department of Health, Ottawa.

MEDICINE:

J. T. Fotheringham, C.M.G., M.D., LL.D., Associate Professor of Clinical Medicine, University of Toronto; Jabez H. Elliott, M.D., F.A.C.P., Past President, Academy of Medicine; Dr. Julian Loudon, B.A., M.B., M.R.C.S., Eng., L.R.C.P., London, F.A.C.P., Physician-in-Chief St. Michael's Hospital, Toronto; Lewellys F. Barker, M.D., Baltimore, Emeritus Professor of Medicine, Johns Hopkins University.

CLINICAL MEDICINE:

H. B. Anderson, M.D., Toronto; George S. Strathy, M.D., L.R.C.P., M.R.C.S., Eng., Clinician, Department of Medicine, University of Toronto; W. B. Thistle, M.D., L.R.C.P., London, Associate Professor Clinical Medicine, University of Toronto. R. T. Noble, M.D., Past President, Academy of Medicine, Toronto; G. W. Ross, M.A., M.B., M.R.C.P., London, Eng.

MENTAL AND NERVOUS DISEASES:

N. H. Beemer, M.D., Medical Superintendent, Ontario Hospital, Mimico; Campbell Meyers, M.D., M.R.C.S., L.R.C.P., Eng.

GYNECOLOGY

F. W. Marlow, M.D., F.R.C.S., England; Associate Professor of Gynecology, University of Toronto.

OBSTETRICS:

J. Gordon Gallie, B.A., M.D., Assistant Department of Obstetrics and Gynecology, Toronto General Hospital.

DERMATOLOGY:

D. King Smith, M.B., Clinician, Department of Dermatology, University of Toronto.

ROENTGENOLOGY:

W. M. Carrick, M.D., The Mayo Clinic, Rochester, Minn.

MANAGING EDITOR:

W. A. Young, M.D., L.R.C.P., Eng., Toronto.



Address all communications to "The Canadian Journal of Medicine and Surgery," 145 College Street, Toronto, Canada.

Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., must be in our hands by the first of the month previous to publication.

# Original Contribution

## THE DIAGNOSIS AND TREATMENT OF COMA, DUE TO MEDICAL CAUSES*

F. Arnold Clarkson, M.B., Physician-in-Chief, Toronto Western Hospital.

*Definition.* The term coma (κωμα sleep) is rather loosely applied. For the purposes of this discussion we shall confine it to its primitive meaning of deep stupor, which, however, does not include those conditions produced by anesthetics. We shall also omit those terminal states of unconsciousness following acute illness, which are the forerunner of death.

*Classification.* The different causes of coma may be grouped as follows:

A. Poisons.
   1. Alcohols.
   2. Opium.
   3. Atropine and its congeners.
   4. Gases

B. Uremia.

C. Diabetes.

D. Conditions of the central nervous system.
   1. Brain injury.
   2. Tumor.
   3. Paresis.
   4. Encephalitis.
   5. Cerebral Hemorrhage.
   6. Thrombosis.
   7. Embolus.
   8. Meningitis.

*Read before the Academy of Medicine, Toronto, Dec., 1922.

9. Multiple Sclerosis.
10. Post-epileptic.
11. Hysteria.

E. Undetermined.

Poisons.

*Alcohol.* Unconsciousness, in alcoholic poisoning, often follows delirium tremens. The patients, however, who are brought into hospital, generally have a history of coma following shortly after a drinking bout. The skin is pale and moist, the pupils large and equal, the pulse full, with the respirations somewhat increased. The diagnosis is made highly probable by the vinous odor of the breath, from which, with a little experience, the physician can judge the kind of liquor that has been consumed. Usually the patient can be aroused.

Since the days of prohibition we have had another entirely different type of alcoholic poisoning, from the ingestion of "squirrel" whiskey. The lethal agent in these cases is probably the so-called fusel oil, a mixture of some of the higher alcohols, which are destroyed in the normal "ripening" of whiskey. The symptoms can be best illustrated from the following cases:—

Two young Italians drank two glasses each of some home-made whiskey. Within twenty minutes they both fell unconscious on the floor, and remained in that condition for an hour and a half. During all this time it was impossible to arouse them. The physician was unable to identify the odor of the breath, which was not like any smell in his previous experience. The breathing became so slow that artificial respiration was used for a time. The whole picture suggested "knock-out drops" (picrotoxin, cannabis indica, and other vegetable poisons added to the drink), but on recovering consciousness, the young men stated that the liquor had been given by a friend who had also partaken of it. There are many instances of death from the product of the illicit still, when there could be no suspicion of methyl alcohol being added to the distillate.

Last week a man, fifty-five years old, was brought into the Western Hospital, unconscious. He had been out visiting a friend in the evening, and two drinks of bootlegger

whiskey formed part of the entertainment. Next day he was unable to go to work because of nausea and vomiting. Towards midnight he became unconscious, and his condition was so alarming that he was brought to hospital. He was then in absolute coma, with respirations sighing and slow, about ten per minute, pupils pinpoint and fixed, face congested, and heart at times very rapid and irregular. There was no odor to the breath. We considered him *in extremis,* from an intracranial hemorrhage, probably in the pons. However, in a few hours, he regained consciousness and gave us the full history, as detailed above. Furthermore, he had gone through the same experience a year before.

We have had cases of coma in hospital from drinking Florida water, eau-de-Cologne, bay rum, and other toilet preparations, extract of ginger, and vanilla extract.

It often happens that the drunken patient falls and cuts his head so that diagnosis is obscured. Perhaps during the period immediately preceding the coma, of, say, apoplexy, the patient may feel ill and have recourse to alcohol. In the stage of unconsciousness the smell of the breath may lead the observer to a wrong conclusion.

A well-dressed, middle-aged woman was seen to stagger and fall on the sidewalk of a busy street. A physician who was passing at the time pronounced it a case of alcoholism, because of the odor of the breath. The patient was taken in the patrol wagon to the police station, where she died shortly afterwards. The autopsy showed a cerebral hemorrhage.

Treatment: This consists in gastric lavage as soon as possible, a simple enema, and passing a catheter if the bladder is full. The body temperature falls quickly, so that heat in some form should be applied. If consciousness does not return within a few hours, enteroclysis should be undertaken, using hot saline solution.

*Opium.* In opium poisoning the onset of coma is gradual. When it is established, the pupils are contracted, the skin is pale and cool, and the respirations become very slow. The patient can be roused only with difficulty. The odor of the breath is characteristic if laudanum or paregoric have been used.

One of the great dangers that beset the path of the morphine addict is the attempt to re-establish the habit after a cure. Under these conditions the patient thinks he is able to stand something like the old dose. He acts accordingly, and with fatal results. I have known two unfortunate accidents of this kind, one in a physician and one in a nurse.

Treatment: Every effort must be made to keep the patient awake. With assistance, he is compelled to walk, if at all possible; when past this stage, flagellation must be practised. The stomach is washed out every six hours and strong coffee introduced just before the gastric tube is removed. Atropine may be given hypodermically and the catheter used frequently. When the breathing becomes very slow, artificial respiration may be employed. In ordinary cases, if the patient can be kept alive for three or four hours, the danger is past.

*Belladonna.* Belladonna poisoning is comparatively rare and is usually the result of an accident. Stramonium poisoning occurs in children in the autumn from eating the seeds of the thorn apple or of the angel's trumpet, a beautiful flower grown in gardens. The first symptoms are a red skin, the facsimile of scarlet fever, with dilated pupils and peculiarly shiny eyes. This is followed by a mild delirium. The mouth and throat are dry, the pulse rapid and the respirations slow and deep. When the dose is large, it is surprising how quickly coma appears. A physician made a mistake in his medicine cabinet, and took about an ounce of tincture of belladonna which he thought was senna. He induced vomiting at once and drank water freely, but became unconscious in less than ten minutes, and remained so for forty-eight hours. His skin was red and his pupils dilated for nearly a week.

Treatment. This consists of emetics, gastric lavage, and the use of the catheter.

*Gases.* The most common of these which cause coma is CO, which forms a considerable percentage of illuminating gas. The patient is usually found unconscious in a room smelling of gas. His face and mucous membranes are red, the respirations are noisy, shallow and rapid, the pulse full and frequent, and the pupils of medium size.

The debatable point in this condition is the toxicity of the CO. Yandell Henderson, who has studied the question a great deal, considers that the toxic effects are entirely due to the anoxemia and that the carbon monoxide is physiologically harmless, except in its affinity for hemoglobin. It remains in the blood for three or four hours. The higher cerebral centres are undoubtedly highly sensitive to the deprivations of oxygen. It is quite common, in death from gas poisoning, to find at autopsy areas of softening, with punctate hemorrhages in the basal ganglia.

We had recently a female patient aged thirty-five, who was unconscious for twelve days from CO poisoning. At death, the brain showed a large number of irregular-shaped areas of softening, scattered through the medullary portion.

Treatment. Because of the changes in the brain, delay in treatment may lead to irreparable injury. The patient must be removed to the fresh air, and artificial respiration begun. Oxygen is administered through a catheter placed in the nostril, and when possible five per cent. $CO_2$ given along with it. Blood letting and transfusion are often used, but have little to commend them.

## Uremia.

The coma in this condition is generally profound, and often accompanied by convulsions. The face is pale and edematous, and there are evidences of general dropsy. The stertorous breathing with full pulse and high blood pressure, and the retinitis, make a characteristic picture. Albumin and casts are present in the urine, but not always. Sometimes there is a hemiplegia.

Treatment. The usual routine consists of enemata, catharties, venesection, hot packs, hot air baths and enteroclysis. Formerly decapsulation of the kidney was advocated, but it seems to have fallen into disuse. If the condition lasts for some time, it is advisable to remove ten to twenty mils of spinal fluid.

Of the powerful catharties that are usually administered in this condition, croton oil is perhaps the most popular. It is, however, very uncertain. Either it deteriorates with age,

or it is adulterated. Some time ago, we tried three different preparations and found them all inert. The fourth, however, obtained directly from the wholesale house, was quite active. If care is taken in the selection of the drug, croton oil is still to be recommended in uremia.

It is surprising how often uremic coma occurs without much warning. In one week three women, all middle-aged, were admitted to the Western Hospital, unconscious. Not one of them, according to the friends, knew she had anything wrong with her. All of them were found in bed comatose. The autopsies in each case showed small, contracted kidneys.

### Diabetes.

The diagnosis is usually easy if the patient is known to have suffered from glycosuria. When coma is established there is a peculiar and characteristic fruity breath, the pulse is rapid and of low tension, and in severe cases, the respirations are slow and sighing (air-hunger). If the eye-balls become soft, the prognosis is very grave. I have never seen one recover.

The treatment consists in the administration of carbohydrate, usually in the form of glucose, either intravenously or by the bowel. Sodium bicarbonate in five to twenty per cent. solution is also given in the same ways, but the results are not satisfactory. Insulin holds out great promise.

If the patient has been under some form of starvation treatment for a few weeks, and then goes back to a high carbohydrate diet, the danger of coma is much increased.

A boy of sixteen, and a girl of seventeen were under the Allan treatment for some months, and were both sugar free for a long period. On discharge from the hospital they gorged themselves with candy and cake. The girl was readmitted in coma a week later, and the boy in about two weeks. Both died.

One of the greatest difficulties in diagnosis is found in nursing and in pregnant women. There is a certain amount, usually small, of a reducing substance normally present in the urine of these patients. If they become unconscious they are classed as diabetics, when such may not be the case.

The degree of glycosuria and of blood sugar is not always a measure of the danger of coma, which may come on very unexpectedly.

A young physician discovered in November that he had diabetes. The sugar was under one per cent., and easily controlled, yet, after eating Christmas dinner, he became unconscious and died in forty-eight hours.

### Conditions of the Central Nervous System.

Brain tumor, paresis and multiple sclerosis may all, though rarely, produce unconsciousness. The diagnosis rests on the clinical findings characteristic of each condition, e.g., the optic edema of one or both discs in tumor, the Argyll-Robertson pupil of paresis and the white disc and nystagmus of multiple sclerosis. In all these diseases coma is rare except as a terminal condition, but it may last for weeks.

A middle-aged woman was admitted to the psychopathic ward of a hospital because of her rapid mental deterioration. Shortly afterwards she became maniacal and later passed into coma, in which state she remained for more than a month. The diagnosis was acute encephalitis with cerebral softening. The autopsy showed a rare form of multiple sclerosis in which only the cerebrum was involved.

*Cerebral Hemorrhages.* The cyanosed face, the slow, snoring breathing and the profound coma, make a fairly typical picture. If there is conjugate deviation and hemiplegia, the diagnosis is almost certain. Lumbar puncture gives a great deal of help. In the majority of cases, the spinal fluid is intimately mixed with blood. Often the urine is passed involuntarily.

If the coma is slight, and of short duration, the prognosis is good. When unconsciousness persists over twelve hours, with no diminution in intensity, the prospects of survival are small, while a patient deeply comatose for twenty-four hours rarely recovers.

Treatment: The head is kept elevated. If the blood pressure is high, phlebotomy may be practised. Formerly cathartics were given, particularly croton oil, but there is no valid reason why they should be exhibited. The lips and nose should be kept moist and no feeding attempted till consciousness is restored.

*Thrombosis and Embolus.* These conditions are hard to distinguish from hemorrhage. The onset in thrombosis is slow, but the clinical picture of all three is very similar. When the embolus is septic the symptoms are most difficult to properly appraise.

A girl of seventeen was noticed to change her disposition about six months before she was actually taken ill. On admission to hospital she was partially comatose, with a serrated temperature chart and a white count of 20,000, mostly lymphocytes. The only clinical findings in the chest were a slightly enlarged heart. At no time throughout the illness, which lasted six weeks, were any murmurs detected. At autopsy many of the smaller arteries in the cerebrum were found thrombosed, the source of infection being an ulcerated mitral valve.

The treatment is practically the same as for hemorrhage.

The coma of *Meningitis*, both tuberculous and epidemic, appears early in the disease. One of the characteristics of the tuberculous form is the lucid interval, which may last for days, to be followed again by unconsciousness. During this period the patient appears perfectly rational. One young woman was married under these circumstances, became comatose at the end of the ceremony, and died next day without recovering consciousness.

The diagnosis depends upon the spinal fluid findings, the rigid neck, strabismus and Kernig's sign.

The treatment of the epidemic form is by the specific serum; of the tuberculous, symptomatic.

*Encephalitis Lethargica.* In this condition coma may develop in the first few days, but more usually it appears towards the end of a severe case. There is nothing distinctive about it to separate it from other forms of coma, so that the diagnosis must be made from a study of the history and a knowledge that encephalitis is epidemic in the neighborhood. The clinical picture is often indistinguishable from tuberculous meningitis.

A boy, seventeen years of age, was admitted to hospital when the first cases of encephalitis were being described. He was comatose, delirious, and incontinent, with stiff neck, unequal pupils and carinated abdomen. Kernig's sign was always well marked. The "hydrocephalic cry" was so typical that the diagnosis of tuberculous meningitis was considered certain. After a month he became partially rational and recovered enough to feed himself. Four weeks later, however, he relapsed into unconsciousness and died three months after admission. Autopsy revealed no tubercles, but a typical picture of encephalitis.

Treatment: This is entirely symptomatic. Nothing that we can do at the present time seems to alter the progress of the disease.

*Post-epileptic.* The diagnosis of this condition is easy if there is a history of epilepsy. Frothing at the mouth, a bleeding tongue, and evidences of incontinence are rather characteristic. The cuts and bruises sometimes found as the result of the fall are confusing. Occasionally a severe epistaxis may make the problem more difficult.

A seamstress, aged thirty-five, fell on the floor and was found unconscious a few minutes later with blood flowing freely from her nose and mouth. The physician who saw her half an hour afterwards considered that she had become comatose from a severe pulmonary hemorrhage, basing his conclusions on the frothy appearance of the blood. When the patient recovered she said she was an epileptic since childhood. The blood came from the nose, which struck the floor in the fall, and the froth was caused by her breathing through the blood.

The treatment is purely symptomatic.

*Hysteria.* The accuracy with which hysteria can mimic other pathological conditions is proverbial, and sometimes hysterical coma is most difficult to prove. There is often a history of previous attacks, varied with some other manifestations of the disease. The patient is generally a female, although some of the worst cases have been in men. Close questioning of the relatives reveals, if not a sufficient cause,

at least a neurotic tendency of the patient. There is a complete absence of the cardinal symptoms of the common comas, the reflexes are equal and exaggerated, while there is usually a tell-tale tremor of the eyelids, which are held much more tightly together than is in keeping with the apparently profound coma. Furthermore, pinching the skin, or a sudden and unexpected dipper of water thrown in the face, quickly brings signs of returning consciousness.

### Undetermined.

In spite of our best endeavors there are cases in which diagnosis is impossible. Each of the members present has probably had one or more of these to deal with.

A stout, thick-set man of forty-five was picked up by the police and brought into hospital. He lay unconscious for nearly three months, but no diagnosis was made. He then regained his senses and returned to work. During the following ten years, I saw him frequently, but got no light upon the cause of the coma. He died suddenly.

### Pathology.

The ultimate cause of coma is, of course, beyond the power of the microscope, and in the realm of conjecture. Many cases of unconsciousness, particularly those at the end of a long illness, show more or less edema of the brain, but this is not always found, and cannot, therefore, be the specific cause, which still awaits discovery.

## SOME OBSERVATIONS ON CASES OF PNEUMONIA AT ST. MICHAEL'S HOSPITAL, TORONTO*

E. A. Broughton, M.B., (Tor.), M.R.C.P. (Lond.).

The record of the cases of pneumonia that have been treated in St. Michael's Hospital during the period from January, 1920, to September, 1922, directs attention to certain facts.

* Read before Academy of Medicine, Section of Medicine, Oct. 10th, 1922

Two hundred and forty-eight persons were admitted suffering from pneumonia, of whom eighty-nine died, giving a mortality of 35.8%. Of these, 152 had lobar pneumonia, and ninety-six had lobular pneumonia. Forty-seven persons died of lobar pneumonia, giving a mortality of 30.9%; and forty-two died of lobular, giving a mortality of 43.7%.

Lobar pneumonia occurred in 101 males, of whom twenty-eight died, giving a mortality of 27.7%, and in fifty-one females, of whom nineteen died, a mortality of 37.2%. Bronchopneumonia, on the other hand, was found in sixty-six males, of whom twenty-four died, a death rate of 36.4%, and in thirty females, of whom eighteen died, a death rate of 60%.

It is interesting to note that the mortality under the age of fifty years is 32.2%, and over the age of fifty years is 56%.

The great majority of the cases referred to above came from the poorer sections of the city, where over-crowding was present, and the necessities of life were not too plentiful. There seemed to be no outstanding etiological factor, with the possible exception of influenza in the early part of 1920, as a forerunner of bronchopneumonia. Coryza was stated in quite a number of cases to be the cause of the first group of symptoms which finally ended in a pneumonia. In one case trauma evidently played a part in the onset of pneumonia. A man, sixty-seven years of age, was knocked down by a motor car. There were no fractures, but he was badly shaken up. Two days after admission to hospital, he had a chill and rise of temperature. Lobar pneumonia developed from which he died. In another case bronchopneumonia followed aspiration of water into the lungs in a young man who was nearly drowned. In two cases ether anæsthesia seemed to be responsible for the onset of pneumonia. In eight cases pneumonia was a terminal event in other conditions, in which the prognosis was very bad, *e.g.*, cerebral hemorrhage, spreading gangrene of leg, cystitis and nephritis due to enlarged prostrate, bronchiectasis, morphinism and alcoholism.

During the past year, the bacteriology was worked out in thirty-six cases of lobar pneumonia and in seven cases of bronchopneumonia. *Type 1.* Pneumococcus was found in

nineteen cases of lobar pneumonia. Of these, this organism was found in the sputum in fourteen cases, in the blood stream in four cases, and in both the sputum and blood stream in one case. *Type 2.* Pneumococcus was isolated in the sputum of five cases of lobar pneumonia. *Type 3.* Pneumococcus was obtained from the sputum in one case of lobar pneumonia, from the blood stream in one case each of lobar pneumonia and of bronchopneumonia. *Type 4.* Pneumococcus was found in the sputum in eight cases of lobar pneumonia and one case of bronchopneumonia, and in the blood stream in one case of bronchopneumonia. Staphylococcus Aureus was isolated from the blood stream in two cases of bronchopneumonia. Streptococcus hemolyticus was found in the blood stream in one case of bronchopneumonia, along with type two pneumococcus in the sputum of one case of lobar pneumonia and from the lung directly at autopsy in one case of bronchopneumonia. In one of the two remaining cases of lobar pneumonia, the type of pneumococcus was not determined, and in the other, a blood culture was negative.

Six cases of lobar pneumonia, in which type one pneumococcus was found, were fatal, a mortality of 31.5%. It should be noted here that death was probably due in one case to the use of antipneumococcic serum.

All the cases in which type two pneumococcus was found, recovered. One case of bronchopneumonia in which type three was obtained from the blood stream was fatal. Similarly, one case in which type four was found in the blood stream, was fatal. All the cases of lobar pneumonia in which types, two, three, and four were isolated, recovered.

In eighty cases of lobar pneumonia, crisis occurred in fifty-four, and lysis in the remaining twenty-six cases, a ratio of approximately of 2 : 1. The longest period of pyrexia in which crisis occurred was fourteen days, and the shortest period four days; the average period was seven days. In the cases in which lysis occurred, the longest period of pyrexia was fifteen days, the shortest four days, and the average ten days. In most of the cases of bronchopneumonia, the temperature came down to normal by lysis.

In 103 cases of lobar pneumonia one lobe only was affected, the right lower lobe in forty-eight cases, the left lower lobe in forty-five cases, the right upper lobe in seven, and the left upper lobe in three cases. The middle lobe of the right lung was only affected when one or two other lobes were involved. In twenty-three cases, two lobes were affected, both lower lobes in fifteen cases, the whole of the left lung in two cases, the right lower and the right middle lobes in two cases, the right lower and right upper lobes in one case, and the right lower and left upper lobes in one case. In three cases, three lobes were involved.

### Diagnosis and Treatment.

There are very few conditions that are more easily diagnosed than pneumonia. Very often one knows that he is dealing with pneumonia from the appearance of the patient and the history. The sudden onset usually with a rigor, pain in the side, the rusty sputum, the rapid shallow grunting respiration, the presence of herpes about the lips or nostrils, and the rise of temperature, give one a picture that cannot be other than pneumonia. Examination of the chest will in all probability confirm one's suspicions. The physical signs will vary according to the stage of the disease, and to the type of pneumonia. One need hardly emphasize that the diagnosis of pneumonia can be made before consolidation is present in any part of the lungs. Once the diagnosis is made, the question of treatment immediately arises. First of all, is the patient to be treated at home or in a hospital? A great many factors enter into one's consideration of this, which need not be discussed, but perhaps the most important is the question of good nursing, for, after all, efficient nursing is an essential part of the treatment. If the patient must be sent to a hospital, it should be arranged at once. Too often, in my experience in one of the large English hospitals, I have seen patients who had been ill for several days arriving after a ten or twelve-mile journey in a moribund condition.

Whether treatment is carried out in the home or in the hospital, certain preliminary and general measures should be carried out. It is essential to have absolute rest in bed, in a room with free ventilation and a temperature around 60°F.

Plenty of bed clothes are required, especially during the initial stage and at the crisis, when the patient feels chilly. In the interval fewer bed clothes are necessary. A pneumonia jacket may or may not be used. In my opinion it is not necessary when the fever has become established, especially if it is high, because loss of heat is the aim rather than preventing heat loss. The patient should be placed in the most comfortable position. Two or three grains of calomel, followed by a saline, should be given at the outset. Active purgation should not be continued, because of the exertion necessary in the use of the bed pan. The bowels should be kept open, however, by soap and water enema, or by a saline each morning. A tepid bath once each day may be given, always bearing in mind that the patient's strength must be conserved.

The diet should be liquid. Plenty of water is essential to dilute the toxins and hasten their elimination. The kidney function should be raised to the maximum by the use of a mild diuretic. Two hourly feedings of a cup full of milk or malted milk and sugar, or egg-nog, is a useful routine. The object is to supply plenty of fluids and sufficient energy in the shape of sugar or some other easily absorbed food. Alcohol is frequently given. It is very useful in small frequent doses where there is vomiting.

The mouth must be carefully washed out frequently with a watery antiseptic.

Symptomatic treatment is indicated as the necessity arises. For the pain of pleurisy, a light linseed poultice is very efficient. The careful application of mustard plaster is sometimes useful. Certain proprietary preparations, which are very convenient, are on the market, but care must be taken in their use to avoid injury to the skin. Severe unproductive cough is probably best controlled by codeia in full doses, or a twelfth of a grain of heroin. Morphia may be necessary for the severe pleuritic pain and for the production of sleep, especially where there is delirium. An ice-cap to the head and cool sponges are also useful.

In the plethoric individual venesection is a good procedure early in the disease, withdrawing 8 to 10 ounces of blood, also when the right heart is dilated in the later stages.

The blood pressure must be watched constantly, and if there is any tendency to its lowering, steps must be taken at once to keep it up. For this purpose 1 c.c. doses of extract of pituitary gland intramuscularly are necessary. An example of how it may be used is taken from the above series of cases. A man, fifty years of age, with lobar pneumonia of both lower lobes received over 100 c.c. of pituitary extract in the period of ten days, from the sixth to sixteenth day of the disease. On the seventh day he received 1 c.c. every three hours, and on the ninth day 1 c.c. hourly. A record of his blood pressure taken every ten minutes after 1 c.c. of pituitary extract shows that in thirty minutes the systolic blood pressure was raised 16 mm. of Hg., and diastolic blood pressure 8 mm. In one hour the systolic blood pressure was back to the original level, but the diastolic blood pressure remained 4 mm. higher. This man recovered. The lowest record of systolic blood pressure in this case was 92 mm. Hg., and of diastolic blood pressure 54 mm. Hg. In another case in which recovery took place the lowest systolic blood pressure was 88 mm. Hg., and the lowest diastolic blood pressure 60 mm. Hg. In both these cases pituitary extract was used freely to keep the systolic blood pressure above 90 mm. Hg., and diastolic blood pressure above 60 mm. Hg.

From the work of Stewart and Rogoff,[1] strychnine is shown to increase the adrenalin content of the blood, and thus to raise the blood pressure. Strychnine should be given in full doses hypodermically, even up to one-tenth of a grain, three-hourly for a short period.

The use of digitalis in pneumonia has many supporters. In my opinion, it should be used in those cases in which the pulse rate remains very rapid, and certainly in any case in which auricular fibrillation may be expected. Care must be taken not to upset the digestion. In the large English hospital with which I was connected recently the tincture or infusion of digitalis were very rarely used. A proprietary preparation known as "Nativelle's Granules" was used constantly with excellent results. With this preparation one can get results quickly without danger of upsetting the digestion.

Cyanosis often requires special attention. If due to dilatation of the right heart, the withdrawal of 8 or 10 ounces of blood often gives temporary relief. If no dilatation of the right heart can be made out, and if the majority of the bronchioles in unaffected parts of the lung are patent, oxygen should be given, either by the use of Haldane's apparatus or through a rubber catheter. In severe cases of bronchopneumonia with oedema of the lungs, I have seen marked improvement following the intravenous injection of 8 to 10 ounces of normal saline to which 1 ounce of hydrogen peroxide has been added. Hydrogen peroxide, as you know, is in an acid solution; therefore, it is necessary to add sufficient ammonium hydroxide to make it just alkaline to litmus paper. This is given slowly through a fine-bore needle, taking from fifteen to twenty minutes to give the 10 ounces. Apparently, the blood is capable of taking up all the liberated oxygen before the heart is reached. I have not seen or heard of any accidents occurring during the administration of oxygen by this method.

Distention of the abdomen is sometimes troublesome. It seems to be due in part to paralysis of the bowel, and apparently is part of the toxemia of pneumonia which picks out the autonomic and sympathetic nervous mechanism. This condition should be vigorously treated from the time it is first noted because of the effect upon the diaphragm and ventilation of unaffected parts of the lung. Extract of pituitary, mild laxatives and enemata are usually sufficient to deal with this condition. The urinary bladder must not be forgotten in pneumonia. Great distress may result from distention of this organ. The distention seems to be due to paralysis or at least inhibition of the bladder reflex. The remedy, of course, is the use of the catheter.

Heart failure can, perhaps, be more successfully prevented than treated. Conservation of the patient's energy by efficient nursing and attention to common sense details throughout the illness is of enormous importance in its prevention. Food and oxygen are essential to the heart muscle. Probably the best food for this purpose is sugar; either cane sugar, glucose or lactose may be used. If necessary glucose, in 10% solution, may be given intravenously.

### Specific Therapy.

Possibly one of the best preventatives of heart failure is found in the specific therapy of pneumonias. It has been pointed out that anti-pneumococcic serum is only of use when the pneumonia is due to type one pneumococcus. This necessarily means that the organism responsible must be determined either from the sputum or the blood stream. Anti-pneumococcic serum was given in ten cases in this series. Of these, six were known to be type one, three were not classified, and in one case type two was found. Of the six cases known to be type one, death occurred in two cases. In one, however, it followed almost immediately upon the intravenous injection of 50 c.c. of serum. A full dose of adrenalin hydrochloride, 1-1000 solution, was given immediately without result, the man dying in about ten minutes. In another case there was a very severe reaction immediately after the intravenous injection of 50 c.c. of serum. Adrenalin was given with good results. In both of these cases one gathers from the records that the test dose was given subcutaneously and not intradermally, which is necessary. If a patient with type one pneumonia is found to give a positive intradermal reaction, as shown by the formation of a wheal larger than 5 mm x 5 mm, that patient must be desensitized before intravenous injections of serum can be given with safety. It would appear from the record of these few cases that results of serum therapy are not very encouraging. This conclusion is further strengthened by the fact that the two cases referred to above were the last treated with serum, although several cases have occurred in which type one pneumococcus was found.

In a recent article by Wynn[2] it is pointed out that in 107 consecutive cases of pneumonia he gave a vaccine prepared from various strains of all types of pneumococci as soon as he made the diagnosis. Of these, ten died, giving a mortality of 9.1%. He advocates the administration of 100 millions in lobar pneumonia to an adult, and 100 millions of each organism in the influenzal bronchopneumonias. The earlier in the disease this administration of the vaccine is made, the better the results so shown by the lower mortality and the more

rapid defervescence. Personally I have had no experience with this type of specific treatment in pneumonia. It certainly appears reasonable, and I hope that it may be tried out here. This advantage is apparent, that there is a specific treatment for types two, three and four pneumococcal infections which, unfortunately, are responsible for upwards of two-thirds of the cases of pneumonia and as great a proportion of the deaths.

### Complications and Sequelæ.

Empyema was the most frequent complication in this series of cases. It occurred in ten cases with two deaths. Rib resection and drainage was done in seven cases and apiration in two cases. It might be noted here that a boy of nine years of age, who two years previously had empyema which was drained, contracted pneumonia followed by empyema on the same side as in the previous attack. Pulmonary abscess occurred in seven cases. Death occurred in four cases. In two cases abscesses were found in the lungs at autopsy. In one of these, there was moderate bronchiectasis, apparently from which a septic pneumonia developed, going on to abscess formation. In the other, there were multiple abscesses, one of which had been evacuated into a bronchus, with consolidation of both upper lobes and the left lower lobe. One case of pulmonary abscess died eight weeks after extra pleural rib resection in an attempt to collapse the lung. He recovered from the operation but died suddenly of some cerebral complication. In the other the abscess was in the lower lobe. In two of the cases in which recovery took place the abscess cavities were in the upper lobes. In the third it was in the lower lobe; this case left hospital at his own request before improvement had taken place. From these it would appear that the prognosis is much better in those cases in which abscess formation follows pneumonia in the upper lobes.

Pregnancy complicated pneumonia in seven cases. Death occurred in five cases; one of the remaining two cases passed through the attack of pneumonia without miscarriage. In the other miscarriage occurred.

Jaundice occurred in five cases, all of whom died.

Pleural effusion occurred in four cases, one of which was interlobar.

Herpes of conjunctivæ occurred in two cases. In both cases ulcer of the cornea resulted and in one hypopyon and iritis with loss of vision.

Appendicitis occurred in two cases. Both were operated upon under local anesthesia and both died.

Pleuro pericarditis occurred in one fatal case. Enlargement of the spleen is recorded in another case. Pneumococcal endocarditis followed in one case in which there had been previous damage by endocarditis occurring in rheumatic fever. In one case of unresolved pneumonia the physical signs in the chest persisted for four weeks. In another case pneumonia recurred in the same lobe. In the first attack crisis occurred on the fourth day, and the physical signs in the chest cleared up. He was allowed to go home and on the following day was readmitted with rise of temperature and evidences of pneumonia in the same lobe. Crisis occurred on the seventh day. He recovered. Severe epistaxis occurred in one case of pneumonia, apparently due to extensive herpes on the nasal mucous membrane.

In these forty-three cases of pneumonia in which there were complications, twenty-one deaths occurred. This possibly partly explains the high mortality recorded.

REFERENCES.

[1]Rogoff and Stewart, Journal of Pharmacology and Experimental Therapeutics, May, 1919.

[2]Wynn, "Treatment of Pneumonia," *Lancet*, Sept., 1922. Pages 493-496.

# Society Proceedings

## THE ACADEMY OF MEDICINE, TORONTO

The annual Library and Historical Night, which of recent years has been one of the most entertaining of the Academy's Stated Meetings, was held on the evening of January 2nd. Some presentations of unique historical interest were made. Dr. Primrose presented some early medical diplomas from the University of Edinburgh which contained the signatures of such well-known Edinburgh men as Sir Robert Christison, Monroe, Sir James Y. Simpson and Syme. Of more local interest was the presentation of the diploma of Dr. John Gilchrist, who practised in the village of Keene, Peterborough County, and was the first licentiate of the old Upper Canada Medical Board. The minute book of the Board, together with lecture notes of Dr. Gilchrist as a student were also given. The Academy is indebted to Dr. H. B. Anderson for obtaining these interesting documents from the descendants of the late Dr. Gilchrist. A photograph of the late Dr. E. M. Hodder, formerly Professor of Obstetrics and Gynecology in Trinity Medical College and a very outstanding practitioner in the Toronto of half a century ago, was given by Dr. J. A. Temple, who was successor to his Chair at Trinity. Dr. Adam Wright presented a photograph taken at the meeting of the Canadian Medical Association which met in Winnipeg and Banff in 1889, depicting the retiring President, Dr. George Ross, Montreal; President, Dr. Harry Wright, Ottawa; Secretary, Dr. Robert Bell, Montreal; Treasurer, Dr. A. H. Wright (acting for Dr. W. H. B. Aikins, unable to attend). Of much more remote interest was the giving of a volume of the *Consolidated Statutes of Great Britain* of the twenty-third year of Queen Elizabeth's reign. Dr. T. W. G. McKay, of Oshawa, was the donor. The volume contains many statutes referring to the licensing of physicians and surgeons of those days.

The historical lecture was given by Dr. J. Fraser Harris, Professor of Physiology of Dalhousie University, Halifax, and was devoted to the history of events in the anatomy schools of Edinburgh leading to the trial of Burke and Hare and the passing of the Anatomy Act. Dr. Harris, being an old Edinburgh man, was able to add many touches of local color to this most interesting, if somewhat sordid, tale of the Resurrectionists. The lecture was well illustrated.

The Library and Historical Committee are to be congratulated on the success of the meeting.

# Medical News

## HONOR THE MEMORY OF GREAT PASTEUR

After the festive doings of Christmas night and Christmas Day, the midnight services, when every church in Paris was crowded, the Reveillon suppers, when every table in all the restaurants, those of the smartest aspect, and those more simple, were loaded with good fare, surrounded by joyous clients, the capital of France gave herself up to the glorification of that grandest and greatest benefactor of the human race, Pasteur. It was on the 27th day of December, 1822, that Pasteur came into this world, the humbly-born babe of a tanner in the old town of Dole. The whole of France celebrated his centenary, during Christmas week of 1922. His native town, hung with garlands, was *en fête* the whole day, and a sermon preached in the old cathedral by the bishop, who is officially religious inspector of the French army on the Rhine. But the most remarkable honors to the great scientist's memory were celebrated in Paris. Delegates from distant parts of France arrived there, delegates also from several of the Allied and other nations, university students in the foreground; and early in the afternoon of the 27th these met together with the

relatives and numerous old pupils of the great master in the fine building known as the Institute Pasteur, whither came M. Millerand, president of the Republic, numerous other politicians of note, and noted men of science and of art.

Two thousand persons, mostly men of mark, were gathered in the amphitheatre of the Institut, and twenty speeches were delivered. Then all passed reverently through the crypt where Pasteur and his wife, so faithful and so helpful, lie at rest. Speeches were made later in the Chambre des Deputes (the Paris House of Commons) and during five minutes the members rose and stood quiet in token of homage. Earlier in the day the students from far and near gathered in the Maison des Etudiants, that historic old building on the site of the first Paris school of medicine, a very primitive school given chiefly to the cultivation and medicinal preparations of herbs, restored in our own time, and made into an important students' club. From thence they walked in procession with symbolic banners to the Hotel de Ville, the splendid Paris town hall, where a grand reception took place, and the president of the council chamber congratulated the students upon the honor they paid their glorious "old student." From the Hotel de Ville the students and delegates marched to the Sorbonne. The enthusiastic meeting there was under the patronage of the French president, personally presided over, and the great hall filled by eminent men of various ranks and classes and nationalities. "Pasteur does not belong alone to France, but to the whole universe," said one of the speakers. A first-class orchestra played beautiful music during part of the time, and the imposing ceremony ended by a cinema show—that of the film "Pasteur"—shown for the first time in public.

We who were in Paris throughout the war years have a vivid recollection of all that was done for the welfare, the saving of life, at the Institut Pasteur during that agonizing time. Soldiers: French, British and others bitten by mad dogs at the front were sent down here to be pasteurized. It was a process, lasting three weeks, usually. Some few of the men anxious to be back doing their bit on the battlefield, chafed under it, but success was almost invariable, and the men were in all cases filled with admiration and gratitude.

A remarkable fact among many others connected with Pasteur is that of his special leaning towards an art the opposite of the scientific and humanitarian art he worked for and glorified. As quite a lad he took up drawing and painting, and to the end of his life loved painting, made it his recreation, his hobby, brief as was the leisure he allowed himself for rest or recreation. One of the great French painters of his day said: "Pasteur has missed his vocation"—a rare good miss for humanity. Pasteur, aided later by Roux, was the origin and centre from which, during fifty years, radii of antiseptic light were shot forth with miraculous powers of prevention and of healing through every area of disease, infection and poison. He has gone, but his work lives and leads to ever new discoveries of healing.

## DR. OSCAR KLOTZ SUCCEEDS LATE PROF. J. J. MACKENZIE IN DEPARTMENT OF PATHOLOGY

Dr. Oscar Klotz, a native of Preston, Ont., has been chosen by the board of governors of the University to succeed the late Prof. J. J. Mackenzie in the department of pathology and bacteriology.

Dr. Klotz is a graduate of the University of Toronto, having received there the degree of bachelor of medicine. That was in 1902. The next year he went to McGill, and then to the University of Bonn. On his return he accepted a position on the staff at McGill, where he remained until 1910, when he became professor of pathology and bacteriology at the University of Pittsburg. When appointed recently to a position in connection with the Rockefeller foundation, he left the University of Pittsburg, and is at present reorganizing the pathological work at the University of Buenos Aires. He has written several volumes on the pathology of arterial diseases.

In addition to that of Dr. Klotz, which does not come into force until July 1st, the board of governors also announced some other appointments: Class assistants in biology; Drs. H. D. Ball, A. E. McCullough, J. M. Macdonald,

A. G. McPhedran, L. A. Pequegnat, W. E. Sparks, O. C. Withrow, Messrs. J. N. Bird, W. R. Franks and H. H. MacKay.

Demonstrators, pathology and bacteriology: Drs. L. R. Hill, A. M. Jeffrey and J. A. Linton.

Assistant demonstrators, radiology: Drs. W. H. Dickson and A. H. Rolph.

## Selected Articles

### OBSERVATIONS ON THE RESULTS OF ROENTGENOTHERAPY IN CHRONIC TONSILLITIS

Observations have led James W. Babcock, New York (*Journal A. M. A.*, Feb. 3rd, 1923), to believe that roentgen-ray therapy as now advocated, may cause more or less diminution in the size of tonsils or other lymphoid tissue in the pharynx or nasopharynx, but the residue has been observed acutely inflamed, and much increased in size while inflamed. It has been demonstrated that it is the small fibrous tonsil that is as likely to serve as a focus of infection with remote symptoms. The observations on tonsils excised indicate that they are not made free of pathogenic bacteria; that there is no evident increase in connective tissue, diminution of lymphoid tissue, lack of activity of the germinal centres or widening of the crypts. Neither the adenoids nor the hypertrophic lymph nodules on the posterior wall of the pharynx disappear; nor do they change in any appreciable way: and they are subject to occasional inflammations similar to those preceding roentgen-ray therapy. General symptoms, involving the heart and joints, have not been relieved in these cases by roentgen-ray therapy, and, in some of the cases, they have improved following an operation some time after roentgen-ray therapy.

The author warns against undue enthusiasm about this therapeutic measure as it is liable to cause injury to those it is designed to benefit, either directly or by supplanting more effective measures. Until it is more definitely shown that diseased tonsils and other lymphoid tissue in the pharynx and nasopharynx can be eradicated as efficiently by a less unpleasant process, reliance must be placed on surgery.

---

## A NICE OFFICE

Modern business recognizes the psychological value of attractive furnishings in the store and office. In these days much money is spent in building and fitting up in splendid style both stores and offices. It is the same with professional offices. Physicians know that well-equipped and furnished offices and waiting rooms form a great attraction to the public. Such furnishings give a feeling of comfort and ease and appeal very forcibly to the sick. They feel better as soon as they get in the doctor's waiting room.

The expenditure of money in this manner is not a wilful waste, pandering to the pride of the spenders, but is a good investment, impressing patrons with a sense of refinement, prosperity and confidence that brings with it increased patronage.

Doctors should consider carefully this important factor in the making of success. A dingy, dusty, shabbily furnished office and reception room create an impression of poverty, slovenliness and ill success. Patients are easily discouraged and quickly lose confidence in the physician who places so little value in the appearance of his office and residence. I heard of one woman who said she quit going to one doctor because his stair carpet was badly worn.

The merchant who invests large amounts of money in beautiful buildings, expensive woodwork, handsome furniture and attractive decorations considers all this investment from the viewpoint of increased business, and not of expense. The physician who would profit by this example may well invest liberally in tastefully furnished rooms, using good judgment as to cost and harmonious effect.

Many a physician and business man has achieved a wonderful success by this means. "Nothing succeeds like sueeess." Make an appearance of success and it will continue. Don't spend more money than you have or you may find you cannot carry your obligations. Live within your means. But, keeping within your means, follow the suggestions above given. —*Selected.*

## ELECTROCARDIOGRAMS AND HEART MUSCLE

The coronary arteries and ventricular muscle of eleven patients dying of heart failure were carefully examined by Harold E. B. Pardee and Arthur M. Master, New York (*Journal A.M.A.*, Jan. 13, 1923), and it was found that muscle disease occurred but rarely in the absence of disease of the coronaries. The outstanding lesion was always a fibrosis, though it varied much in degree and distribution. The ventricular waves of the electrocardiogram taken shortly before death were normal in four cases: three of these had normal ventricular muscle, and the other showed but insignificant changes. The ventricular waves were abnormal in seven cases: one of these hearts had a moderate fibrosis, and the remainder had various sorts of marked abnormality of the ventricular muscle. Though admitting the small number of their cases, the authors feel that they strongly suggest that an electrocardiogram with the special abnormalities described will indicate disease of a ventricular muscle to a definite degree, which the microscope, if not the naked eye, can discover, and which might well be expected to interfere with its function. If the ventricular waves do not show any of these special abnormalities, the indication is less clear; but it is likely that the ventricular muscle is normal, or at least affected with but the slightest degree of abnormality. It seems that ventricular muscle disease is a far more important deduction from the finding of abnormal ventricular waves than has been heretofore considered, so that the clinical importance of abnormal electrocardiograms becomes more apparent. They give indications of the condition of the ventricular muscle much as the stethoscope gives indications of the condition of the valves, and considered like the sounds of the stethoscope, the records must be very carefully considered before being used as a basis for diagnosis or prognosis.

# Obituary

## DR. BRUCE ROBERTSON

Dr. Bruce Robertson died on the 24th of February, after a week's illness from pneumonia. Dr. Robertson, a fortnight or more previously, had an attack of influenza, but was apparently quite recovered, and had returned from the General Hospital to his home at No. 46 Foxbar Road. A few days later he was suddenly taken with severe chills and hurried to the Wellesley, where despite every attention, and the unremitting care of his friends in the medical profession, his condition rapidly grew worse, until the fatal termination.

The late Dr. Robertson was born in Toronto thirty-seven years ago. Educated at the Model School, Upper Canada College and the University of Toronto, he graduated in combined arts and medicine in 1910. After spending some time at the Hospital for Sick Children, as an interne, he went to New York, where he spent four years on the medical staffs of Bellevue Hospital and New York Hospital. Returning to Toronto in 1914, he joined the staff of the Hospital for Sick Children, and also began private practice in surgery, in which he had specialized.

When the Great War broke out, Dr. Robertson was among the first to enlist from Toronto. He joined up at the Armories on 5th August, 1914, receiving a captain's commission in the Canadian Army Medical Corps a few days later; but despite his efforts could not get overseas until early in 1915. Going to France from England, he was variously employed at surgical work with the Canadians. For a time he was seconded for duty with the Imperials. Then he returned to the Canadians, and for almost two years was attached to No. 2 Canadian Casualty Clearing Station at Remy Siding, close to Poperinghe. Here, and with the Imperials, Dr. Robertson saved many lives by blood transfusion, and the machine

he invented and employed was very favorably commented upon by the R.A.M.C. and copied by them. Dr. Robertson was promoted to the rank of major early in 1918, and very much impaired in health by his service, was invalided to Canada. Since his return he greatly developed both ordinary blood transfusion and exsanguination transfusion in his practice.

The late Dr. Robertson married in April, 1920, Enid Gordon Finley, daughter of Mr. and Mrs. William Finley, of Montreal. His widow and a small son, Allan, and daughter, Lorraine, survive him, as do his mother and his brothers, Douglas S. Robertson, of The *Evening Telegram* staff, Irvine G. Robertson, Ottawa; his sister, Mrs. W. Stewart Wallace, of 59 Poplar Plains Road, and Struan F. Robertson of Chicago.

The *Telegram*, established by his uncle, J. Ross Robertson, wrote of him thus:—

"Though only thirty-seven years old when he died, Dr. Lawrence Bruce Robertson was a great surgeon. In 1909, with all his dreams of the life-work before him, he stood in Convocation Hall to receive his medical degree—a brief fourteen years ago. Yesterday, the University Faculty, the medical and nursing profession and friends, some five hundred in all, gathered again in Convocation Hall—this time to pay their last homage. The Great Physician had called Bruce Robertson; he had answered the call; he had received High Heaven's degree. Strong and beautiful in life—so in death; he seemed to be lying there asleep amongst the flowers.

" 'Thou who art not very far away from us at any time and to whom we look for blessing, strength and comfort—whose pity is infinite—look down upon our sorrow,' began the opening prayer offered by Rev. Dr. W. G. Bach, minister of Eglinton Presbyterian Church and interim moderator of St. Andrew's Church, King Street. This was followed by a scriptural reading: 'The Lord is my Shepherd, I shall not want,' by Prof. Richard Davidson, of Knox College, and the hymn 'Abide With Me.'

"Simply, yet with repressed feeling, Col. Edgar Davey, of Hamilton, Bruce Robertson's commanding officer with No. 2 Canadian Casualty Clearing Station and friend overseas, voiced his tribute to the complete service which the young surgeon had rendered the world.

" 'Dr. Robertson recognized that he had a task in life. He accepted the responsibility of that task to which he applied himself most faithfully to the very end,' said Col. Davey, narrating his academic career and preparation for his great work for humanity.

" 'Dr. Robertson had a larger vision than the most of us. In 1913 he began that important branch of his work, blood transfusion. He was one that believed in thorough preparation; his technique was perfect; he was a master of detail; nothing was too small to be considered. He had a vision in life and was out for the common good. His aim was to leave the world better because he had lived, and with this vision he went forward in life.' A key to the philosophy of his life was found in a poem, written by an aviator, and which Dr. Robertson kept by him when overseas—'I want to sing you the song of men who lived and struggled and died.'

"Citing from extracts of a diary which Col. Davey had kept overseas, he told of the young surgeon's anxiety to reach the front-line trenches—of the multitudinous operations performed. Col. Davey had vetoed Major Robertson's application to go to the front line, because his services as head of the surgical staff of the clearing station could not be replaced.

" 'During the campaign of 1917 over 30,000 casualties passed through our station,' said Col. Davey, 'and there were 6,000 operations—major ones. One night there had been 2,000 cases. On August 16th and 17th we admitted 1,202 casualties—1,096 wounded, and there were 162 operations performed by Dr. Robertson and his staff, the doctor remaining on duty often sixteen hours, sometimes twenty-four to thirty-six hours at a time. Eventually he broke down under the strain. Then he didn't want to leave, but we sent him away for a rest; he was back in a month. He was responsible for the bringing into use of gatch beds to facilitate the carrying of chest and abdominal patients.'

"It, too, had been Major Robertson's study and development of blood transfusion which had brought back to life men whose blanched faces when brought in had borne the sign of aproaching death. Major Robertson's methods had been widely adopted throughout the army.

" 'Now upon the farther shore, lands the voyageur at last,' quoted Col. Davey softly, then continuing: 'His was a voyage of discovery—not pursuing the beaten path, but going out into new worlds. What he has given to the world will be of material benefit. Dr. Robertson in his quest never forgot his individual patient. He was almost womanlike in tenderness, and we cannot help but say, 'O Death, where is thy sting?' Death has no victory over a spirit such as his. Death has but given him a key into a bigger world. As we think of his high ideals and his devotion to them, the inspiration will be with us so long as we shall live. 'He is not dead—there is no death—what seems so is transition.' "

---

## DR. J. F. UREN

Dr. J. F. Uren died suddenly in March from *angina pectoris,* having passed three score, greatly mourned by his family, his church and his hospital, St. Michael's, Toronto.

Some thirteen years ago, Dr. Uren suffered what appeared to be an anginal attack, from which he recovered after a six weeks' rest. For several weeks prior to his demise he was off work with a rather severe attack of sciatica, had recovered sufficiently to have several bad teeth extracted and even to make a call on a sick woman who was very anxious to see him. Following this visit he had a cardiac seizure; this was followed by another on the evening before he passed away. This subsided and he passed a good night. When he awakened, however, the following morning, a third and severe attack supervened. A physician was called and while being examined, Dr. Uren suddenly expired.

Dr. Uren was descended from a Cornish family, who settled a hundred years ago in the woods in Oxford County, where they built homes, cleared off the bush, and tilled the

soil—frugal, thrifty, industrious, God-fearing folk. Dr. Uren until he was eighteen worked hard on the home farm, studied at the county school, St. Mary's Collegiate Institute, and Ingersoll Model; taught three years, studied medicine at Old Trinity and practised medicine in Acton for eight years.

In 1898 he came to Toronto, taking over the office and practice of Dr. John N. E. Brown, his brother-in-law, became attached to St. Michael's Hospital, and slowly but steadily forged his way to the front rank of Toronto's galaxy of surgeons. He was chosen by Dr. Leslie Sweetnam as his first assistant, after whose untimely death at forty-three he shortly became one of the seniors on the staff.

Dr. Uren's success was outstanding. He shewed sound surgical sense, inspired confidence, possessed a good nerve, had excellent technique, looked after his patients most attentively, was on the job early in the morning when patients, nurses, internes and he, himself, were fresh, and was most thorough in his work—never flustered, never in a hurry, but expeditious. Dr. Uren was a very conscientious man and gave much of himself to his patients. These facts account at least in part for what might be termed his splendid success.

Dr. Uren was a faithful member of the Methodist Church, a past W.M. in the Masonic order, an honorary member of Sigma Phi Greek Letter Society, and a Fellow of the American College of Surgeons. He lived a quiet, unostentatious life, much with his family. He owned a good surgical library, whose volumes he had carefully perused and digested. He seldom spoke before medical assemblies or prepared or read papers. It is unfortunate that he did not, at least, report some of the unusual and difficult cases he had under his care during such a long and active career.

Dr. Uren had a wide circle of staunch friends among his clientele, was much respected by the sisters, nurses and doctors of the hospital and by many of the clergy.

The *Catholic Register* pays Dr. Uren the following tribute:—

"The Toronto medical profession has sustained a very serious loss in the sudden death of Doctor John Franklin Uren. He was a remarkably clever and successful surgeon and a cultured and courtly gentleman. His long years of noble service on the surgical staff of St. Michael's Hospital had acquired for him a reputation and veneration that human words can never express. Many a priest and many a religious in the City of Toronto and Province of Ontario, will offer up a fervent prayer for the eternal happiness of that princely benefactor of suffering humanity, the late lamented and much respected Doctor Uren. R.I.P."

The following is an excerpt from the Toronto *Star's* report of the last rites:—

"In his funeral address Dr. Davies paid tribute to Dr. Uren's high qualities as a surgeon and as a Christian. 'Our friend possessed a genius for quietness,' said the minister, and he said that while he did not feel that eulogy in the presence of the dead was fitting, it was impossible not to express their gratitude for the great work of the doctor. 'For a quarter of a century he has been recognized as one of the most distinguished surgeons of our city.' The many students who attended his lectures in the university, and knew him in St. Michael's Hospital would bear witness to the fact that he humanized his work. A patient was not simply a 'case,' but a suffering human creature. 'There are many homes in this city where mothers to-day will call him blessed,' said Dr. Davies, referring to his many ministrations to the poor, where payment was out of the question.

"'The mainspring of his life was his faith in Christ. I thank God he died quietly in that faith.'"

---

Note.—We regret that in publishing the article entitled "A Meeting of the Caduceus Medical Society," and which appeared on pages 105-112 inclusive of our March issue, we overlooked giving credit to *The American Journal of Surgery*. We apologize.

201


# The Canadian Journal of Medicine and Surgery

A Journal published monthly in the interests of Medicine and Surgery

Vol. 53 TORONTO, JUNE, 1923 No. 6


## Editorial

### The University of Toronto

We need scarcely remind our readers of the several references in the columns of this journal during the past year to the sharp controversy in medical circles respecting the conduct of affairs in the Faculty of Medicine of the University of Toronto, and especially in the Toronto General Hospital. As is well known, this finally culminated in an enquiry by a select committee of the Provincial Legislature, whose report was tabled in the House on May 3rd, last; but before proceeding to analyze this important document, it might be well to record certain of the events which led to the investigation.

The first of these was the munificent gift of the late Sir John Eaton, of $500,000 in instalments of $25,000 annually for twenty years. This so-called "Eaton endowment" was made in January, 1919, on certain conditions being fulfilled. Following the

acceptance of this gift a so-called "full time" professor of medicine was appointed and a complete reorganization of the department was effected. Large powers were given him with regard to the selection of his staff, the policy of teaching and the care of the sick in the Toronto General Hospital. The plans for reorganization were completed during the absence, on military duty, of certain heads of services, and their assistants; eventually resulting in the abolition of the three co-ordinate services in medicine and the consequent involuntary retirement of several well-known medical men—General Fotheringham, Colonel Chambers and Major Thistle. This was in the spring and summer of 1919.

The next important change occurred in the Department of Surgery in 1921, made possible by the terms of the Rockefeller gift of $1,000,000, upon conditions accepted by the Board of Governors of the University. The general plan of reorganization followed was that already adopted by the Department of medicine, namely, one co-called "full-time" professor endowed with very large powers over his staff, the policy of teaching and the care of patients in the wards and out-patient department of the General Hospital. Again this plan was formulated during the absence on military service of at least one important member of this department, namely, the professor of surgery himself —Professor Irving H. Cameron. The new professor of surgery, Clarence L. Starr, immediately set to work to

reorganize his department, with the final result that on or about the day of the opening of the Faculty of Medicine in September, 1921, four men (all well-known surgeons, long in the service of the hospital and the university), received notice of their retirement. In other words they were summarily dismissed from the staff of the General Hospital without warning and without thanks. These men, all under the statutory age-limit, were Drs. Bruce, Roberts, McCollum and Moorhead. Two men over the statutory age-limit, the late Dr. Bingham and the Dean of the Faculty, Dr. Primrose, were retained.

It is well known that vigorous protests were made to the professor of surgery, the Board of Trustees of the General Hospital and directly to the president, but without avail; and consequently public discussion offered the only remaining means of obtaining at least some consideration of the question at issue.

We need hardly remind our readers that a storm of protest, chiefly from medical men, arose late in 1921—first over the manner of the dismissal of these members of the staff, and later, as well, over the introduction of the system of "full-time" professors, with all that went with that system. The president of the university, the Board of Governors and the Board of Trustees of the hospital were all freely criticized both in the medical and lay press, and so the controversy got well under way. It seemed, however, to be gradually lessening in force,

when in January of 1922, Colonel Thomas Gibson, C.M.G., D.S.O., an alumnus of the University of Toronto, and assistant deputy minister of Militia Overseas, entered the lists on behalf of certain members of the staff who, in his judgment, had been harshly treated by their abrupt and unjustifiable retirement. He pointed out, in a letter to the public press of Toronto, that these gentlemen were men of academic distinction, that they had long served their university and hospital, and that they had to their credit most commendable service overseas in the late war. Furthermore, the authorities (the president of the university and the Board of Governors), had promised them that "appointments equally as good and remunerative would await them on their return."

The names he selected for particular mention (and he might have added others ) were:

Major-General J. T. Fotheringham, C.M.G., M.A., M.B., assistant director Medical Service, Second Canadian Division, France; director general Medical Service, Canada, until June, 1920;

Col. J. A. Roberts, C.B., F.R.C.S., England, Officer in Command No. 4 Canadian General Hospital, University of Toronto Unit; assistant director Medical Services, London, England, area; deputy director Medical Services Overseas, Military Forces of Canada; returned to Canada 1919;

Lieut-Col. Graham Chambers, M.A., M.B., officer in charge, Medical Service No. 4 Canadian

General Hospital, University of Toronto Unit; officer in charge medicine, Ontario Hospital Orpington, England; returned to Canada 1919;

Capt. Andrew Moorhead, F.R.C.S., England, with Royal Army Medical Corps, Overseas, including service in France, 1917-1919;

Capt. John McCollum, M.B., M.R.C.S., England; with Canadian Army Medical Corps overseas 1916-1919, and No. 4 Casualty Clearing Station, France.

Following upon this strong protest of Col. Gibson's, demanding an investigation, the controversy continued with greater force and larger scope, culminating in the appointment of a select committee of the Provincial Legislature (then in session) to enquire into university affairs.

On June 9th, 1922, the Hon. Mr. Grant (Minister of Education) moved, and the Hon. Mr. Raney, (Attorney-General) seconded, and the House passed this resolution:

"That a Committee of this House, composed of Messrs. Drury, Doherty, Ferguson, Dewart, McCrea, Marshall, Watson, Swayze and Greenlaw, be, and it is hereby appointed to inquire into and report to this House in regard to any matters concerning the organization and administration of the University of Toronto, including its relation with federated colleges and with the Toronto General Hospital, and to make any recommendations which the committee desire in the public's interest. That this committee have power to send for persons and

papers, and to examine witnesses under oath." The name of Mr. McNamara was subsequently added to the committee.

A study of the terms of reference discloses at once the interesting fact that the scope of the enquiry had been greatly enlarged to include practically all matters concerned with the university, administration, finance, etc., etc., its federated colleges, and the Toronto General Hospital. Thus out of a comparatively small beginning came this comprehensive investigation of university affairs. Such evidently was the temper of the Legislature as indicated in the character of the resolution passed, and in the selection of the very able committee (representative of all shades of opinion within the House ) and including the Prime Minister as its natural chairman.

The committee, with the Prime Minister as chairman, convened on the 25th of October, 1922; held fourteen sittings, and heard forty-three witnesses. The meetings were public, and freely open to anyone desiring to testify. The university was represented by the president of the university, various members of the Board of Governors, several deans of faculties, and others. The federated alumni of the University sent its president, Mr. Angus MacMurchy, K.C., and Col. Thomas Gibson was permitted to act as counsel for certain alumni, on request and without remuneration.

The inquiry covered three distinct phases of university affairs. First, the general administra-

tion of the university under the provisions of the University Act; secondly, the connection between the university and Toronto General Hospital; and, thirdly, the question of the divorcement of the Faculty of Education from Queen's University, Kingston, and the establishment of the College of Education at Toronto.

Medical interest is, of course, especially concerned with the first two of these.

The committee examined a number of witnesses to learn authoritatively the working of the University Act of 1906, under which the affairs of the university had been administered since that time. The outstanding feature of this enquiry was the large powers vested in the Board of Governors. It was shown to consist of: "the chancellor and the president, ex-officio, and twenty-two persons appointed by the Lieutenant-Governor-in-Council, one of whom is named as chairman of the Board. The appointed members hold office for six years, and one-third of the number retires every two years, but *these members are eligible for re-election*, and further, the Board has power to appoint the president of the university; and to appoint or remove all of the officers and servants of the university or university college upon the nomination or recommendation of the president. The government, conduct, management and control of the university and university college, and of property, revenues, business and affairs thereof are vested in the Board, University Act 1906, Sec. 37, but all expenditures

of endowment must be authorized by the Lieutenant-Governor-in-Council. The Board makes by-laws, rules and regulations regarding the investment of the funds; the selling and leasing of university properties; the letting of contracts; the appointment and removal of the Bursar and his assistants, clerks and other officers and servants of the university; the rate of salary to be paid to the staff and officers; the fees to be paid by students; the annual appropriations and the transaction of other business."

It was argued, especially by Col. Gibson, that alumni representation on this powerful Board would stimulate the interest of the graduates in their *alma mater* and be mutually beneficial. The committee accepted this view, and reported to the House as follows:

> "Your committee believes that it would be in the interests both of the university and the public to have on the Board, representing the alumni body, eight members directly elected by the alumni association, and recommends that the statute be changed to carry this proposal into effect. Concurrent with the passing of this legislation, the present Board of Governors should be asked to place their resignation in the hands of the cabinet; and of the twenty-two members so retiring (the president and chancellor being permanent ex-officio members), fourteen be imme-

> diately re-appointed by the Government, together with the eight members whom the alumni association would be called upon to elect under the suggested amendment to the statute."

So far as the senate was concerned, but little change was suggested. The committee, however, recommended that any proposed gifts of money, as well as any plans for new buildings or substantial alterations of old, should be first submitted to the senate for approval before being finally passed upon by the Board of Governors.

According to the terms of the University Act of 1906, all appointments, promotions and dismissals were made by the Board of Governors, although they were not permitted by the Act to initiate any of these. This function rested solely with the president of the university. So it was in the early stages of this controversy that the president was sharply criticized for not exercising his authority in preventing the dismissal of certain gentlemen from the staff, who, it was declared, should not have been dismissed, and the retention of others who had passed the statutory age-limit. An expression commonly heard was that his actions were "autocratic in the extreme;" and it was further noted, that he neither permitted the voluntary retirement of these gentlemen slated for dismissal, nor did he acknowledge the debt of their service to the university over many years in an academic capacity, or pay tribute to them as military surgeons in the Great War. The

axe was raised, and he permitted it to fall (so went the allegations!)

In this connection it is worthy of note and commendation that the personal issues surrounding the members of the staff who had suffered, were not pressed before the select committee by any of the witnesses testifying—apparently they elected to submerge "personalities" in order to maintain the discussion on the high plane appropriate to the larger issues at stake.

The comments of the committee upon this important matter will bear quotation:

> "A great deal of criticism was levelled at the system in operation regarding appointments, promotions and retirements, and numerous suggestions were made in the direction of requiring the president, by statute or otherwise, to consult a committee before taking action. Your committee was advised that it has been the custom of the president to follow that procedure in the past, but that he used his own discretion as to the personnel of his committee of advisers.
>
> "No good purpose would appear to be served by placing a statutory obligation upon the president to consult any stipulated body of advisers. At the same time, the evidence submitted would lead to the conclusion that consultation with a committee, as widely representative as pos-

> sible of the faculty concerned, would be extremely valuable as well as desirable. We therefore recommend that the president, whenever an appointment, promotion or dismissal is in contemplation, consult with a committee elected by the faculty concerned, whose advice should not be ignored except for very weighty reasons."

Whilst the summary dismissal of certain members of the staff initiated the controversy, it soon became evident that these dismissals were consequent upon the introduction of a new system in the organization of the departments of medicine and surgery, claiming greater efficiency both for the teaching of medicine and surgery and for the care of the patients in the General Hospital. Furthermore, the fact soon became known that these reorganizations were directly dependent upon two gifts of money to the university, one from the late Sir John Eaton, and the other from the Rockefeller Foundation. So it was that the terms of these gifts came to be closely scrutinized, and, with respect to certain of the limiting conditions, openly criticized.

We cannot do better than quote at length from the report of the select committee bearing upon these several points:

> "The university and hospital authorities were called upon to defend certain reorganizations which had taken place in the internal administration of the hospi-

tal, and which had varied the terms set forth in the by-law forming part of the statute governing its administration. Allegations were made that conditions attached to gifts from the late Sir John Eaton and the Rockefeller Foundation had influenced the type of organization now adopted in the hospital; had affected appointments, and had deprived the hospital and the medical students of the experience and advice of highly qualified physicians, who were 'reorganized' off the staff.

"A great deal of evidence was taken both in favor and against the reorganizations which had taken place in both medicine and surgery; and the important point raised by those opposed to it was that the by-law which brought about the reorganization was not approved by the Lieutenant-Governor-in-Council, as required by statute. Many eminent physicians and surgeons gave the committee the benefit of their views."

Many members of the committee constantly referred to the importance of the reorganizations that had occurred because of the consequent revolution in medical teaching. They asked of many witnesses what bearing the new system would have on the production of the "family doctor"—whom they seemed extremely anxious to perpetuate; and often the fear was expressed that the new system

of medical education was in danger of producing too many specialists, or again was concerned rather with the "ultra-scientific" than with the practical.

Again we find the following:

"Toronto General Hospital Reorganization.

"Of all the questions which came before the committee, the arrangement between the Toronto General Hospital and the university, under the agreement referred to in a previous section, forced itself to the forefront of the discussion. It was stated in the first place that a certain reorganization in the medical service which took place in 1919, and a similar reorganization in surgery which occurred in 1920, whereby a "full-time" professor was placed in charge of each of these services, was detrimental to the best interests of the public and the medical profession, and violated the law contained in the schedules to the Toronto General Hospital Act (1 Geo. V, Chap. 80, 1911), which provided for three co-ordinate services in medicine and four co-ordinate services in surgery, as well as several single services in other technical branches of medicine. Under that statute there was to be a head of each service. The heads in surgery were to retire at the age of fifty-five, and the heads in medicine at sixty, with a provision for extension to sixty and sixty-

five years respectively. In addition, complaint was made that the 'full-time' professor was not obliged to devote all his time to the hospital, but was allowed to compete with practitioners not on the staff in outside practice, and that whereas certain distinguished members of the staff had been removed under the reorganizations (even when under the age-limit), certain others were retained after they had passed the age-limits. The system of appointments to the hospital staff at present obtaining was severely criticized and condemned. Further, it was alleged (and by the terms of the gifts the point would appear to be well taken), that a certain benefaction amounting to $500,000 from the late Sir John Eaton, known as the 'Eaton Endowment,' brought about the reorganization in medicine; and that an appropriation of the Rockefeller Foundation to the University of Toronto of $1,000,000 conditioned and made possible the reorganization in surgery.

"*The Reorganizations*: Your committee wishes to record its disapproval of the reorganizations in the medical and surgical departments and the departments of obstetrics and gynecology, which it finds to be illegal and unauthorized, and to state that no order-in-council should now

be passed confirming what was irregularly done, but that the matter be referred back to the proper authorities for reconsideration, pending which no legislative action shall be taken.

"*Removal of certain doctors.* In connection with the release of certain doctors from the hospital staff, the committee considers that the Board of Governors and the trustees of the hospital respectively showed a regrettable lack of consideration for, and appreciation of, the valuable and efficient services rendered to the university and the hospital for many years by those whose services were abruptly and irregularly terminated under the authority and with the approval of the president of the university, through the introduction and enforcement of a method which admittedly is an experiment and is not authorized either by statute or by order-in-council.

"*Hospital Appointments.* In regard to hospital appointments, we find that the agreement dated the first day of December, 1919, between the governors of the University of Toronto and the trustees of the Toronto General Hospital, which forms a schedule to the Toronto General Hospital Act, 1911, and which was confirmed and validated by the said Act, provides by clause 9 thereof for a 'Joint Hos-

pital Relations Committee,' comprised of four of the Governors of the University and four of the Trustees of the Hospital.

"By clause 12 of the agreement, the heads of departments in the faculty of medicine of the university are entitled *ex-officio* to a regular service in the hospital, and the trustees of the hospital have no option but to appoint these heads to the hospital staff.

"Other appointments to the hospital staff, by clause 15 of the agreement, are to be made only on the nomination of the joint committee; and, if they are unable to agree, by the president of the university and the chairman of the trustees or a majority after including a third person appointed by themselves.

"The situation which has actually resulted is that the hospital staff is controlled absolutely by the university, and no member of the medical profession not on the university staff may attend patients in the hospital except in the private and semi-private wards.

"The committee is of opinion that such a condition is undesirable, and recommends that the present agreement between the hospital and the university be abrogated and a new agreement entered into and validated by the Legislature,

which, while preserving to the university the widest rights in regard to clinical instruction for its students in the Toronto General Hospital in connection with public ward patients, shall leave to the hospital trustees the sole right of appointment to positions on the hospital staff."

"EATON AND ROCKEFELLER GIFTS AND REORGANIZATION.

"As to the relation of the Eaton and Rockefeller gifts to the changes in organization, it seems clear to the committee, from a perusal of the terms of the gifts, that the Eaton endowment did contain a provision which may have resulted in the appointment of the single head in lieu of three co-ordinate heads in medicine; and that the Rockefeller gift did contain conditions regarding salaries and the limitation of students, which, although having little bearing on the reorganization in surgery, are, in the opinion of the committee, highly undesirable. The committee has no hesitation in saying that in a publicly-owned university, private endowments should not be accepted if, attached to them, are conditions which would bind the university governors to any particular quality of course of action."

Certain medical men appeared before the committee to protest against the "closed-hospital"

system, contending that it was unfair alike to the patient and the family physician. The committee stated its views as follows:

> "The committee does not favor the present practice of excluding a large percentage of practitioners from attending their patients in the public wards of the Toronto General Hospital. It is estimated that in Toronto eighty per cent. of the physicians are excluded from hospital practice, thereby preventing their maintaining the high standard which should be available for their patients, who represent the vast majority of the public. It was submitted in evidence that consultations and diagnoses made by outside general practitioners, following the onset of disease and prior to the patient's admission to the hospital, are largely unavailable for the hospital staff. They have to begin where they get the patient, because of the exclusion of the outside physician.
>
> "It is recommended that the university and hospital authorities together attempt to devise a means of enabling the practitioner not on the university staff, to practise in the hospital, in the general interests of public welfare."

Space will not permit a detailed discussion of many other interesting matters deliberated and passed upon by this Committee of the Legislature.

The following summary, however, will indicate some of these:

1. That generous provision be made for the furtherance of the efforts of those engaged in scientific research, having in mind the recent notable contributions to science of Banting and Best in the discovery of insulin, and of Prof. MacLennan and his associates in the liquefaction of helium.

2. That the composition of the council of the faculty of medicine be revised, so as to enable lecturers and instructors in the clinical departments to vote after serving as assessors for three years, and restricting the franchise in the primary (non-clinical) departments to full professors only.

3. That the City of Toronto contribute towards the support of the university.

4. That "Convocation" consist of the Alumni Federation of the University of Toronto as at present constituted.

5. That the Government consider future representation of the Workers' Educational Association on the Board of Governors and the senate, on conditions set forth in the section of the report relating to the representation of Labor.

6. That the relationship between the University of Toronto and the federated colleges, having proved at all times eminently satisfactory, be not disturbed.

7. That the Department of Education provide throughout the Province convenient facilities for

taking first-year university work through the high schools and collegiate institutes.

8. That the Government encourage the extension work of the university by adequate financial assistance.

9. That hospitals receiving Government aid guarantee against the practice of "fee-splitting" by doctors practising therein.

Attached to the report of the select committee tabled in the house was a Draft Bill entitled "An Act to Amend the University Act"—containing a number of clauses designed to implement the various recommendations offered. Another point of arresting significance was the fact that the report received the signature of approval of every member of the select committee. All parties or "groups" within the House were ably represented in its personnel—and all saw "eye-to-eye" on the conclusions reached. As medical men and friends of the university we must welcome this virtual removal of its affairs from the realms of party politics, where such vital problems as the education of the sons and daughters of this province should have no place. This fact and the high quality of the report should find the next legislature most receptive to the reconstructive legislation forecasted in the attached "Draft Bill."

It is perhaps too soon to formulate an opinion upon all the recommendations of the committee, but certain facts bearing upon the character of the investigation need only to be stated to receive our hearty approval:

*First*: the excellent personnel of the committee, their earnestness, patience and thoroughness; and the dignity and studied impartiality of their deliberations;

*Second*: the broad scope of their enquiry;

*Third*: the obvious desire to enquire carefully into all phases of a large and often technical subject;

And finally, to compose their minds deliberately, so that in an eminently judicial spirit they might arrive at conclusions based upon the testimony of the numerous witnesses, the accuracy of whose statements were usually carefully checked by close cross-examination.

It is safe to say that this remarkable document compares most favorably with any of the efforts of royal commissions on this subject and will long stand as a vindication of the time-honored method of enquiry into public affairs by "A select committee of the House." The Prime Minister, his Government, and indeed the whole House surely merit our hearty congratulations and grateful thanks for so great an effort, directed as it was not only towards settling certain difficulties that had arisen, especially in the faculty of medicine but, of far more importance, the reconstruction of the administration and organization of the university and Toronto General Hospital along democratic lines, to the end that these great publicly-owned institutions should progress and flourish in close sympathetic contact with all classes of the community.

# The Canadian Journal of Medicine and Surgery

Toronto ——— Canada



## Board of Editors

THE PRINCIPLES OF SURGERY AND SURGICAL PATHOLOGY:

Irving H. Cameron, M.B., LL.D., F.R.C.S., England; F.R.C.S., Edinburgh; F.R.C.S., Ireland; F.A.C.S.; Emeritus Professor of Surgery, University of Toronto.

PRACTICE OF SURGERY:

N. A. Powell, M.D., C.M., Emeritus Professor of Medical Jurisprudence, Univeraity of Toronto. Herbert A. Bruce, M.D., F.R.C.S., Eng., Associate Professor of Clinical Surgery, University of Toronto,

HOSPITAL ADMINISTRATION:

J. N. E. Brown, M.D., Toronto, former Superintendent Toronto General and the Henry Ford Hospital, Detroit; A. R. Haywood, M.B., M.R.C.S., L.R.C.P., Eng., Medical Superintendent, Montreal General Hospital.

OPHTHALMOLOGY:

J. M. MacCallum, M.D., Chief, Department of Ophthalmology, Toronto General Hospital; Walter W. Wright, M.B., Assistant in Ophthalmology, Toronto General Hospital.

NOSE, THROAT AND EAR:

Perry G. Goldsmith, C.B.E., M.D., Chief, Department Ear, Nose and Throat, Toronto General Hospital; J. K. Milne Dickie, M.D., F.R.C.S., Edin., Ottawa.

PEDIATRICS:

Augusta Stowe Gullen, M.D., Toronto; Alan Canfield, M.D., Visiting Physician, Hospital for Sick Children, Toronto; George Smith, B.A., M.B., Associate Physician, Hospital for Sick Children, Toronto. Helen MacMurchy, M.D., Chief, Division of Child Welfare, Department of Health, Ottawa.

MEDICINE:

J. T. Fotheringham, C.M.G., M.D., LL.D., Associate Professor of Clinical Medicine, University of Toronto; Jabez H. Elliott, M.D., F.A.C.P., Past President, Academy of Medicine; Dr. Julian Loudon, B.A., M.B., M.R.C.S., Eng., L.R.C.P., London, F.A.C.P., Physician-in-Chief St. Michael's Hospital, Toronto; Lewellys F. Barker, M.D., Baltimore, Emeritus Professor of Medicine, Johns Hopkins University.

CLINICAL MEDICINE:

H. B. Anderson, M.D., Toronto; George S. Strathy, M.D., L.R.C.P., M.R.C.S., Eng., Clinician, Department of Medicine, University of Toronto; W. B. Thistle, M.D., L.R.C.P., London, Associate Professor Clinical Medicine, University of Toronto. R. T. Noble, M.D., Past President, Academy of Medicine, Toronto; G. W. Ross, M.A., M.B., M.R.C.P., London, Eng.

MENTAL AND NERVOUS DISEASES:

N. H. Beemer, M.D., Medical Superintendent, Ontario Hospital, Mimico; Campbell Meyers, M.D., M.R.C.S., L.R.C.P., Eng.

GYNECOLOGY

F. W. Marlow, M.D., F.R.C.S., England; Associate Professor of Gynecology, University of Toronto.

OBSTETRICS:

J. Gordon Gallie, B.A., M.D., Assistant Department of Obstetrics and Gynecology, Toronto General Hospital.

DERMATOLOGY:

D. King Smith, M.B., Clinician, Department of Dermatology, University of Toronto.

ROENTGENOLOGY:

W. M. Carrick, M.D., The Mayo Clinic, Rochester, Minn.

MANAGING EDITOR:

W. A. Young, M.D., L.R.C.P., Eng., Toronto.



Address all communications to "The Canadian Journal of Medicine and Surgery," 145 College Street, Toronto, Canada.

Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., must be in our hands by the first of the month previous to publication.

# Original Contribution

## IDEALISM IN MEDICINE

John Hunter, M.B., Toronto.

Idealism is a term which seems to baffle any concise definition, and has attributes, not unlike those of some drugs, which we have to use, more or less, empirically. Idealism has exercised a most potent influence over all the civilized races of mankind. It made an irresistible appeal to all the great nations of antiquity, as witnessed in their religions, philosophies, literature, and art. It reached its highest altitudes in the life and teachings of the Great Physician Himself and in the sacred literature of both Jewish, and Christian people. It placed a "regal crown" on the civilizations of ancient Greece and Rome. It symbolized "blood and iron" in the egomania of a German Kaiser. It upheld the "Spirit of France," while the earth drank up the "life-blood" of her people. It has been the talisman of the Anglo-Saxon race in its world-wide quest for, "liberty, justice, and equality."

Idealism has always been a most potent factor in medicine. Hippocrates, the illustrious father of scientific medicine, was inspired by such a sublime idealism, that he was able to make such a beneficent impression on the physicians of his own day, that the very effulgence of it has been a veritable "light to the feet, and lamp to the path" to each succeeding race of physicians down through all the centuries of the past two thousand years. Idealism furnished the veritable "X-ray" that enabled an "immortal galaxy" of scientists in medicine to penetrate the mists that so long enshrouded any knowledge of the anatomy, and physiology of the human body. Who but the inspired idealist could have, unfalteringly, faced the relentless opposition, and cruel penalties—ecclesiastic and political—launched against the dissection of the human body, or the use of vivisection to increase the sum of medical knowledge.

These—the noble-minded, and "pure in heart" inspired by a sublime idealism, pursued their journey in quest of more knowledge, and hence we owe to these dauntless pioneers an inestimable debt of gratitude for the services they rendered in building up the science, and in perfecting the art, of medicine.

Were the writer qualified to do so, and did time permit, it would prove most profitable and interesting to study some of the idealism that inspired such men as Hippocrates, Galen, Harvey, Hunter, Jenner, Pasteur, Lister, and our own deeply lamented Osler. Both of the above essentials are lacking, therefore this paper will be confined to a very brief reference to some ideals that influenced medicine in the past century, and also to some that are now influencing it.

Humanity will owe an everlasting debt of gratitude to the idealism of the past century that inspired a Morten and a Simpson to conceive the possibility, by means of an anesthetic, of annihilating the consciousness of pain during an operation—a Lister and a Pasteur to discover the source of infection in wounds, and a Florence Nightingale to reveal the horrors of a military hospital, and to bring comfort and joy to the wounded soldiers through the introduction of scientific methods, and the trained nurse. The idealism of this "galaxy of immortals" changed the history of the whole world. What the human race would have done without such idealists is beyond comprehension when we try to recall the horrors of the operating-room without anesthetics, the ravages of great plagues, the wide-spreading of infectious and contagious diseases through want of isolation, the high mortality after surgical operations, and from puerperal infection, and the appalling fate of the wounded soldier. Without the idealism that inspired Pasteur, Lister and other scientists, the past great war would have been about as disastrous to our modern civilization, as the flood was to that of the antediluvian world. Idealism in medicine saw its most sublime manifestations in the practice of the Great Physician Himself, and in the rescuing of the human race from conditions that otherwise might have engulfed it.

The nineteenth century saw the advent of another type of idealist—almost the very antithesis of the group above mentioned—the pathologic idealist. These medical scientists

held most tenaciously to the conviction that only in the morbid product was it possible to find the cause of disease, hence the striking impulse given to the study of morbid anatomy. Judged from a purely scientific perspective, the physician who could have his diagnosis verified by "post-mortem findings" was awarded the "laurel wreath" rather than he who could present his patient "made whole from his infirmity." In fact, in many of the great continental schools of the past century the greatest attraction was the dead body on the table. Students waited, almost impatiently, to see the morbid elements the poor unfortunate victim was supposed to be harboring. A clinician of that period, and of international fame, was asked by one of his students, "What would the treatment be for such a case?" The only reply was, "treatment be d. . .d, he has a morbid kidney." However, it is only just to say that during this pathologic régime there were other great idealists who were enriching medical science by their labors in other fields, e.g., histology, embryology, physiology, bio-chemistry, bacteriology. Near the "sun-set" of the past century there flashed on the screen two mysterious "lights" known in scientific literature as the X-ray and radium, which have added much to the science, and revolutionized some of the art of medicine. The idealism that will cluster around the revelations being made by the X-ray and radium, must await description by a hand still far away in the "womb of the future."

What is the idealism that is inspiring medical thought, and guiding practice in these first decades of the present century? It is always a disability, when too near an object, to get a proper perspective. However, in an age when messages can be intercepted as they are wafted to and fro o'er land and sea, may we not by attentive listening, with attuned ears, be able to intercept, and to interpret some of the messages floating through the medical atmosphere of to-day? The modern physician is emancipating himself from at least one "tradition of the older schools," viz., that a selfish exclusiveness is very becoming to the dignity of the physician. He no longer allows the fetters of a highly specialized training to restrict his attention solely to the morbid conditions affecting the individual patient. He looks up the "genealogical tree" and carefully investigates his patient's environment for causes that menace

the health, peace, and prosperity, not only of the individual, but of the whole community. His idealism is not that of Pollio, the Roman magistrate, who tried the Apostle Paul. The Jews were terribly perturbed by sectarian issues, but because these were not recognized in the highly specialized laws of Rome, Pollio told the Jews that he "cared for none of these things"—but rather the idealism of the Great Physician Himself, "who ever went about doing good." It is no longer considered beneath the dignity of the physician to appear on the public platform with the social reformer, or to go into the pulpits of the great churches of the city and contrast the claims of scientific medicine with those of the blatant "cults" and charlatans. Another ideal of the present century is that of co-operation, instead of the rather austere competition exemplified in the lives of our predecessors. What is known as the "group" is very much "in evidence," especially in all of our larger cities. The "halo of glory" with which literature has surrounded the "old family physician," will soon be lost in the radiance emanating from the specialized "groups."

In conclusion idealism in medicine can teach us many lessons, and as some of these are so tersely stated by that prince of medical idealists, Sir William Osler, may I be permitted to quote his words: "You must learn to consume your own smoke. The atmosphere is darkened by murmurings and whimperings of men and women over the non-essentials. Learn to accept in silence the minor aggregations, cultivate the hard gift of taciturnity, and consume your own smoke with an extra draught of work, so that those about you may not be annoyed with the dust and smoke soot of your complaints. We are not here to get all we can out of life for ourselves, but to try to make the lives of others happier. This is the essence of the oft-repeated admonition of Christ, 'He that findeth his life shall lose it, and he that loseth his life for my sake shall find it.' It is not possible for any one to have better opportunities to live this lesson than you will enjoy. The practice of medicine is an art, not a trade; a calling, not a business; a calling in which your heart will be exercised equally with your head. Often the best part of your work will have nothing to do with potions and powders, but with the exercise of an influence of the strong upon the weak, of the righteous

upon the wicked, of the wise upon the foolish. To you as the trusted family counsellor, the father will come with his anxieties, the mother with her hidden grief, the daughter with her trials, and the son with his follies." May we not also add the prayer that those sorely afflicted with pain, anguish, doubt and perplexity due to the conditions of body, soul, spirit, or estate, may find relief through our idealism in medicine and a solace akin to that felt by the contrite soul when in its anguish it cries out:

'Lead kindly light, lead thou me on,
The night is dark and I am far from home.'"

---

## ADDRESS OF APPRECIATION

TO

JOHN W. S. MCCULLOUGH, ESQ., M.D., C.M., D.P.H., CHIEF OFFICER OF HEALTH FOR THE PROVINCE OF ONTARIO.

Dear Sir:

Your fellow members of the Provincial Board of Health for the Province of Ontario, would embrace this opportunity of placing on record the appreciation we feel for the kindly, courteous and gracious manner you have so consistently and uniformly manifested toward us in all your relations with us. These happy experiences cover a considerable period of time and we possess most pleasing recollections of the quarterly sessions, at which, as members of the Board, we have been privileged to discuss with its Chief Officer, the public health activities of the Province.

We note with pleasure and pride the rapid strides made in public health work and administration, during your long tenure of office: while many of the most helpful enactments in public health legislation have been placed on the statute books, either on your personal advice, or as a result of research work under your direction.

The entire population of the Province of Ontario, has indeed, occasion to thank you for the part you have taken in building up a Department of Health, to which no comparison is possible in any other part of the Dominion of Canada.

Possibly a perusal of your own report dated December 1st, 1920, showing the progress of ten years made by the Department, would more fully emphasize this fact than any words of our own. In that report you very modestly attribute much of the credit for the great things which have been accomplished, to the efforts of others. We, your fellow members, and as we might venture to claim in some small degree also your fellow helpers, would place the credit for the unparalleled success therein recorded in all divisions, where it very properly belongs. The same report very generously attributes great credit to the heads of the divisions for the success achieved in the evolution of the department. We, however, know that such success was only possible in proportion to the support afforded by you, and the division of laboratories, the free distribution of biological products, maternal hygiene and public health nursing, educational progress, public health exhibits, the division of sanitary engineering, and other sections or fields of work, are the monuments of success as they appear to-day, because of the master hand which has controlled their destinies.

What has been achieved in connection with the provincial directing centre of public health work, has been reflected in practically every city and municipality throughout Ontario.

Figures are readily available to show the gradual reduction in the general death rate, and what is equally striking, the lowering of the infantile mortality rate throughout the province, during the period in which you have had the reins of public health administration.

The excellent results which have been attained in the control of communicable diseases, particularly in relation to typhoid fever, diphtheria, smallpox and venereal diseases, are worthy of the highest possible commendation. The work done in connection with the purification of water supplies alone has been stupendous. And so we might elaborate *ad infinitum* on the good work performed in your various spheres of labor.

The members of the Board are conscious of the fact that the happy results secured have been made possible only by the benign influence of a sunny disposition, a pleasant smile and kindly word of encouragement on the part of Dr. McCullough

toward all efforts wheresoever and no matter by whom exercised, in the direction of alleviating sickness and controlling disease.

We now ask you to accept from our hands, a slight token of the affection and esteem in which we hold your fellowship; so that when on vacation you may be journeying westward to scale the dizzy heights of the Rockies, or eastward to be gladdened with the sound of the breakers on the shores of the Atlantic, you may have a kindly thought for six among the many to whom you have endeared yourself by your qualities of heart and hand. We sincerely trust that you may long be spared to continue the great work which has been of such service to the community in the past, and which we believe is destined to be of inestimable value in the future.

| | |
|---|---|
| A. H. Wright. | W. H. Howey. |
| James Roberts. | H. R. Casgrain. |
| T. E. Kaiser. | A. S. McElroy. |

After the reading of the address a handsome English club bag was presented to Dr. McCullough.

# Selected Articles

## THE STORY OF EPSOM SALTS

Christina Grace Rankin

Like many of the other drugs we use, Epsom Salts, the "magsulph" familiar to most of us from the bitter doses doled out to us as "spring medicine" in our childhood, has an interesting history. Most of us are inclined to regard its use as an external remedy as one of the newer methods of using the drug, but a little delving into the history of Epsom salts convinces us that history is simply repeating itself in reverting to its use as an external application.

The spring from which the Epsom salt takes its name was discovered at Epsom, in England, in 1618, by a farmer named Wicks. He had quite a herd of cattle, and as the summer of 1618 was very dry and the wells on his farm were failing, he drove his cattle to Epsom Common, where he had found what he thought was a previously undiscovered spring. He dug a shallow hole into which the water bubbled up from underneath and drove his cattle there to drink. But the cattle refused to swallow it. However, his efforts led to a careful examination of the well, and it was suggested it must be a medicinal spring. The local people flocked to the well and carried away jugs of the water, which they used externally for the relief of pain in joints and also as an application to open sores of different kinds. This was the only way Epsom salts was used for many years.

Finally, one of the more daring of the local people, a gentleman named North, ventured to drink some of the water from the spring and in that way discovered its effect as a hydragogue. Wealthier people, even in that far-off day, were beginning to patronize the German spas in quest of health, and Dudley North was one of them. He found out personally that the German spas were costly and inconvenient to reach by the mode of travelling in use in that period. In 1645

he wrote a little book telling of the virtues of Epsom salts and also protesting against so much English money being spent at the German springs, which he asserted were no better than the Epsom spring. He spoke of the Epsom salt as "a medicine sent from heaven." Doctors of the day finally woke up to the importance of the Epsom spring, and for about sixty to eighty years the fashionable people of England flocked to Epsom.

In 1753 another celebrated physician began sending his patients to the seashore for salt water bathing, and the patronage at Epsom dwindled. But the Epsom spring is still there. A great Canadian military convalescent hospital was, in wartime, located not far from this famous spring.

Its use as an external application in this country in cases of erysipelas, acute articular rheumatism, neuritis, etc., dates back only about fifteen years; so far as we have been able to discover, its value as an external application was first demonstrated in the Philadelphia General Hospital. In 1907 Dr. Henry Tucker published a paper giving the details as to how it should be applied to secure the best results. He directed that "a saturated solution should be applied to the inflamed part, 15 to 20 layers of ordinary gauze being constantly kept wet with it. The gauze should not be removed for twenty-four hours, and the parts then washed and the dressing reapplied. There would then be found to be marked bleaching of the surface, which is not followed by any deleterious effects. It causes numbness and tingling in the hands of the attendants, which may last for twenty-four hours."

It was not long before its value externally had been established and it was hailed as a new discovery. It only furnishes one more illustration of the old proverb, "There's nothing new under the sun."—*Selected.*

## DEAVER ON FULL-TIME CLINICIANS

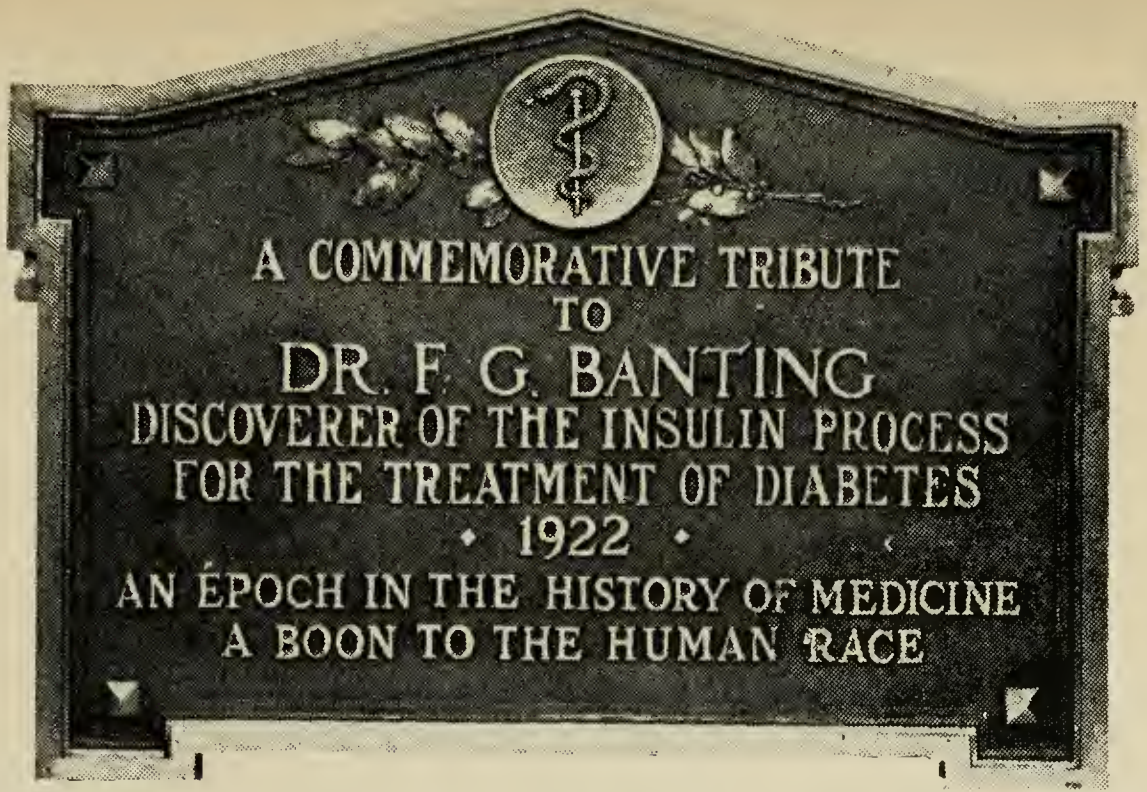
"We must deplore, therefore, anything which detracts from that high standard of service to the community which the community has a right to demand, in view of the extraordinary freedom and power which it has conferred upon us. It is our profound belief that the system of full-time salaried chairs for the clinical branches which has been forced upon

a number of our foremost institutions by powerful influences is not only contrary to the spirit of American institutions, and contrary to the proper workings of the human mind, but it is sure to result in degeneration of that art which is the true power of science, and in the deterioration of the instruction to the student in how to deal effectively with the problems which he must confront in his chosen life work. To me the plan smells of the midnight oil of the theorist (to say nothing of the oil which has lubricated the ways for its launching). It has in it none of the red blood of the real administrator working to get results with humanity as God made humanity. In its application, as I have witnessed it, the plan shows no appreciation of the fact that the head of a clinical chair must be a clinican. Is not the clinical art also a science? Does it not rest upon knowledge and does it not depend upon aptitude, ability, experience and hard work? Can anyone become a clinician by merely calling himself by that name? Does appointment to a professional chair make him a teacher? Or is it no longer true that in addition to knowledge, which is not so common a possession, the successful department head must have qualities of personal integrity, stimulating personality, and administrative ability?

"In attempting to remedy the evil of the clinical professor overloaded with private practice and neglecting his teaching, his department, and his scientific work, these men of admirable intentions have gone to an equally unjust extreme. Orderly evolution was going on, even rapidly, if one considers world movements: but it apparently was not rapid enough for those who seek to reach the heights in a bound. But this is the day when the professor may try his theories on the whole human race, and the Pied Piper of Hamelin has his counterpart in Russia and would-be imitators everywhere.

"If I mistake not, there are signs of returning sanity. The domination of those who have shown their inadequate grasp of the whole problem is being loosened. Let us hope that the education of our youth will be entrusted to men who are outstanding figures in the field, which they are presenting to the impressionable mind. Let us all fully realize that science is the beginning of practice, and that practice is the goal of science."—*Selected.*

# MEMORIAL FOR DR. BANTING IN HIS HOME TOWN




**The discovery of the insulin treatment for diabetes has made the name of Dr. Frederick G. Banting famous throughout the world. Toronto, and the University of Toronto, have gained much prominence through this discovery, but the name of Dr. Banting's home town has been mentioned but seldom, yet the people of Alliston, near where the young scientist was born, feel just as proud of him as anyone else can. Dr. Banting attended the Alliston High School, and an admiring populace there are going to erect this tablet in the High School in honor of the discoverer and discovery of insulin. The tablet is the work of Henry Birks & Sons, of Montreal, and bears this inscription: "A Commemorative Tribute to Dr. F. G. Banting, Discoverer of the Insulin Process For the Treatment of Diabetes, 1922—An Epoch in the History of Medicine—A Boon to the Human Race".** (Courtesy of the Evening Telegram, Toronto.)

# Medical News

## NEW FELLOWS OF THE AMERICAN COLLEGE OF PHYSICIANS

At a meeting of the American Congress of Physicians held in Philadelphia, Dr. J. H. Elliott, of Toronto, was elected Vice-President, and five other Toronto doctors were elected Fellows of the American College of Physicians. The others honored were: Dr. J. T. Fotheringham, Dr. F. G. Banting, Dr. Henry C. Wales, and Dr. George Porter, Director of Health, University of Toronto; Dr. C. E. Cooper Cole and Dr. Frank Neal, of Peterborough.

## THE ONTARIO MEDICAL ASSOCIATION

Owing to the fact that *The Canadian Journal of Medicine and Surgery* has for twenty-five years been mailed before the first of the month, it is naturally impossible to publish any report of the recent meeting at Windsor of the Ontario Medical Association—we hope, however, to make amends in our July number.

## ACADEMY OF MEDICINE, TORONTO

OFFICERS FOR THE YEAR 1923-1924.

President, Dr. J. T. Fotheringham; Vice-President, Dr. J. H. McConnell; Hon. Treasurer, Dr. H. M. Tovell; Hon. Secretary, Dr. Dennis Jordan; Elective Members of Council, Dr. H. B. Anderson, Dr. F. A. Cleland, Dr. F. C. Harrison, Dr. E. E. King, Dr. A. J. Mackenzie, Dr. R. T. Noble, Dr. G. S. Young; Alternates, (1) Dr. E. A. McDonald, (2) Dr. J. H. McPhedran, (3) Dr. H. C. Wales.

## HONORED BY THE ONTARIO LEGISLATURE AND THE UNIVERSITY OF TORONTO

Dr. F. G. Banting is now Professor of Research in the University of Toronto. The Legislature and the University have honored themselves in this appointment.

# Book Reviews

*Text Book of Anatomy and Physiology for Training Schools and Other Educational Institutions*, by Elizabeth R. Bundy, M.D. Fifth edition, revised and enlarged by Martha Tracy, M.D., Dr. P. H., and Grace Watson, R.N. With a glossary and 266 illustrations, 46 of which are printed in colors. P. Blakiston's Son & Co., 1012 Walnut St., Philadelphia. Price, $2.50 net.

In this new edition, the chapter on the physiology of digestion has been revised to include important facts, the result of the latest research in the field of nutritional physiology. More is written on the ductless glands and a description of the male generative organs is added to the chapter on the reproductive system. In the first chapter a fuller description is given of the structure and functions of the cell and elementary tissues. The book has a fine typography, well illustrated and very readable.

*Addresses and Papers, Dedication Ceremonies and Medical Conference, Peking Union Medical College, September 15-22, 1921.* From the Secretary of the College, 61 Broadway, New York City.

This magnificent book contains a history and description of this college, built by the Rockefeller Foundation. The story of the inauguration ceremonies and a full report of all the addresses follows. President George E. Vincent made the presentation and gave a stimulating address on "An Adventure in Public Health." Our own A. B. Macallum, the Canadian representative, spoke on biochemistry. A. S. Goldwater, Director of Mt. Sinai Hospital, gave an outstanding paper on "The Search for the Ideal in Hospital Organization." Prominent specialists in all departments of medicine made illuminating presentations on some division of their specialties. Fortunate are they who possess a copy.

*Exercise in Education and Medicine,* by R. Tait McKenzie, M.D., LL.D., McGill University. Late Major, R.A.M.C. Third edition, thoroughly revised. Philadelphia and London: The W. B. Saunders Company. Canadian Agents: The J. F. Hartz Co., Limited, Toronto. Price $5.00.

With a much added experience gained by the author as physical training officer in the British Army at Aldershot, as medical officer in command of a convalescent camp of 5,000 men, and as inspector of physical therapy in war camps and hospitals throughout England, Canada and the United States, the author incorporates much practical information in this new edition. Various devices for the re-education of co-ordination lost or weakened by war, are described, as also are the Swedish gymnastics; and illustrations a-plenty are given. This splendid work must appeal to students and practitioners of physical training, to school teachers, medical students and doctors. The author states that the pernicious influence of indoor life on growth has been proved, and measures are now taken to remedy it by exercise and play. Exercise and massage, he says, have been used as remedial agencies ever since the days of Æsculapius, but definite instruction in their use has seldom been given to medical students. The work is deserving of a wide sale.

---

*Orthopedic Surgery,* by Sir Robert Jones, K.B.E., C.B., Ch. M., Liverpool, F.R.C.S., England, Ireland and Edinburgh, F.A.C.S. (U.S.A.), Director of Orthopedic Surgery, St. Thomas's Hospital; and Robert W. Lovett, M.D., F.A.C.S.; John B. and Buckminster Brown, Professors of Orthopedic Surgery in Harvard University. Illustrated with 712 engravings. New York: William Wood & Company. 1923. Price $9.00.

In all probability this is the best book on orthopedic surgery that has ever appeared in English. In Canada, we have become familiar with the writings of Doctor Lovett, and, as an author, we have learned to appreciate his fine literary style and his thoughtful reviews of all that can be considered sound principles in the surgery of deformities. With Sir Robert Jones we are naturally not so familiar, but those who

have seen his work, recognize in him a master surgeon who stands supreme in the history of orthopedic surgery in English-speaking countries. The combined authorship of these leaders in orthopedic surgery in Great Britain and the United States, demonstrates just what can be expected from the closer union between our countries, which has resulted from the war.

The book is a masterpiece. It presents the conservatism of the Americans, and the aggressiveness of the English, without a sign of friction, and in a manner which at once arouses the interest of the reader. Frequently the authors disagree as to methods of procedure, but, whenever this happens, as in the chapter on "The Treatment of Congenital Dislocation of the Hip," the discussion of their divergent views adds spice to the text which is altogether to the reader's advantage. Of particular interest are the chapters on the disabilities occurring in joints. Here the broad surgical knowledge of Jones makes itself apparent, and his great experience and remarkable ingenuity will have a profound influence in this country.

The book is a handsome volume of seven hundred pages, well illustrated and printed. No surgeon can afford to be without it, and for the practitioner and advanced student it provides a reference work which is without equal.

---

*Vital Statistics.* An introduction to the science of demography, by George Chandler Whipple, Professor of Sanitary Engineering in Harvard University. Second edition. New York: John Wiley & Sons, Inc., 60 Broadway. 1923. Price, flexible binding, $4.00 net.

This is an introduction to the world-wide science of demography. It shows how to express vital facts by figures, how to tabulate them, and how to display them by diagrams; it shows how to compute birth-rates and death-rates, and how to analyze a death-rate; it shows how to adjust and standardize death-rates and how to make life-tables; it emphasizes the need of using vital statistics with truth, imagination and power. Exercises and questions to incite further study are given in each chapter.

*Protists and Disease.* Vegetable Protists; Algae and Fungi, including Chytridiineae: various Plasmomyxineae, the causes of Molluscum Contagiosum, Smallpox, Syphilis, Cancer and Hydrophobia; together with the Mycetozoa and allied groups, by J. Jackson Clarke, M.B., Lond., F.R.C.S., Senior Surgeon to the Hampstead and North-west London Hospital, and Surgeon to the Royal National Orthopedia Hospital. London: Bailliere, Tindall & Cox, 8 Henrietta Street, Covent Garden. 1922.

This is a most interesting fifteen-shilling book, well printed on calendered paper and beautifully illustrated. It seems to us that this biological and microscopial study is the best avenue of approach to the study of cancer, since it has proven so in the search for the cause of tuberculosis, syphilis and other parasitic and germ diseases. The micro-photographs of various sarcomatous, syphilitic and carcinomatous growths are very instructive. Clarke says that of the countless experiments made with Jensen's mouse cancer, the result of Ehrlich and Apolant is the most important: on transplantation, epithelial cancer becomes sarcoma, showing that the two diseases are one, and that both are caused by the same parasites.

---

*The Successful Physician*, by Verlin C. Thomas, M.D., Visiting Physician to Franklin Hospital, San Francisco. Philadelphia and London: The W. B. Saunders Company. Canadian Agents: The J. F. Hartz Co., Limited, Toronto. 1923. Price, cloth, $4.00.

It must be confessed that most treatises upon the ethics of what has come to be regarded as successful practice of medicine leave a most unwholesome taste in the mouth of the reader: because their appeal is like that of manuals upon good manners, and their implications as to the fundamental shortcomings of many of those who enter the practice of medicine, are such as no self-respecting member of a learned profession should be called upon to endure. This volume is at least less open to criticism on these points than many others of this kind.

*International Clinics.* A Quarterly of illustrated clinical lectures and especially prepared original articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene and other topics of interest to students and practitioners by leading members of the medical profession throughout the world. Edited by Henry W. Cattell, A.M., M.D., Philadelphia. Volume IV, 32nd series, 1922. J. B. Lippincott Co., Philadelphia and London, 1922. Price $10.00 for series of four volumes, or $2.50 per volume.

This number of International Clinics completes thirty-two years of continuous publication of quarterly issues.

The contents are comprehensive, and cover a wide field, in the science and art of medicine. The divisions, under which the twenty-seven articles in this issue are grouped, are Medical Welfare Work, Nutritional Problems, Clinical Medicine, Paediatrics and Clinical Surgery. All the articles are well-written, interesting and instructive. Some of the subjects dealt with, are Albumen Milk in the nutritional disorders of infants, Deficiency Diseases, Vitamines, Diphtheria with special reference to the Schick Test, Diastolic Heart Murmurs, Cardio-vascular Syphilis, treatment of Varicose leg Ulcer, and Therapeutics of the Psychoneuroses.

The publication is most useful to the busy practitioners who have only a limited time for technical reading and wish to have authoritative up-to-date articles in book form for permanent preservation. The paper and printing are excellent and the illustrations abundant.

---

*Regional Anesthesia*, by Gaston Labat, M.D., Lecturer on Regional Anesthesia at the New York University. With a foreword by William J. Mayo, M.D. Illustrated. Philadelphia and London: The W. B. Saunders Company. Canadian Agents: The J. F. Hartz Co., Limited, Toronto. 1922. Price, $7.00 net.

In this work of 500 pages, with upwards of 300 original illustrations, the fact that regional anesthesia has come to stay and to take its place as a substitute for general anesthesia

in many surgical procedures both minor and major, is very ably presented. Its application to all regions of the body is demonstrated although it is admitted it is not of the same value in some procedures as it is in others. The author deals very fully with the method of administration, solutions, technic, etc., in the earlier chapters, while the main body of the work is devoted to methods of approach in the various regions of the body, together with strength and quantities of solutions to be used. The writer recently had the opportunity of watching the author's work, so has anticipated the publication of this book and is in no way disappointed. It will form a valuable addition to the library of any surgeon.

---

*General and Professional Biology with Special Reference to Man.* (A one or two-year course, including introductory Embryology and Comparative Anatomy), by Edward J. Menge, Ph.D., Director of the Department of Zoology, Marquette University, Late Professor of Biology, University of Dallas. The Bruce Publishing Company, Milwaukee, Wis. Price $6.50.

It would appear that in this book the author uses as his text that "the cultured man must know something about everything." But while this is so he has incorporated within the cover of one book an interesting and comprehensive study of the subject. Keeping in mind, especially, the requirements of a student of the first year or two of a professional course, the general principles of biology are taken up in a simple fashion. The examples of the animal and plant kingdom dealt with, are well chosen and their anatomy and histology given in adequate detail and well illustrated. Mammalian embryology and comparative anatomy are taken up in a most satisfying manner. In addition, the author takes the opportunity to introduce many subjects related to a study of biology; genetics, animal psychology, palæontology, each form the heading of a separate chapter. While written primarily for the student, the graduate will find much matter to interest him in this book. Although discussing many subjects in a superficial manner, the author has not forgotten another requirement of the cultured man—to know everything about something, and has included a well-chosen reference list as a means to pursuing a subject in further detail.

R
11
C38
v.53

The Canadian journal of medicine and surgery

Biological
& Medical
Serials

PLEASE DO NOT REMOVE
CARDS OR SLIPS FROM THIS POCKET

UNIVERSITY OF TORONTO LIBRARY

STORAGE